

	Type	Hits	Search Text	DBs	Time Stamp
1	BRS	12546	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/01/15 12:59
2	BRS	8115	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/01/15 12:59
3	BRS	440	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/01/15 13:00
4	BRS	2888	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/01/15 13:00
5	BRS	4304	382/10,154,181,190,191,209,217- 220,276-278.ccls.	US-PGPUB; USPAT	2005/01/15 13:01
6	BRS	18023	S1 or S2	US-PGPUB; USPAT	2005/02/04 07:56
7	BRS	7446	S4 or S5 or S3	US-PGPUB; USPAT	2005/02/04 07:56
8	BRS	12642	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/01/28 08:05
9	BRS	8215	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/01/28 08:05
10	BRS	18199	S8 or S9	US-PGPUB; USPAT	2005/01/28 08:05
11	BRS	441	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/01/28 08:05
12	BRS	2906	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/01/28 08:05
13	BRS	4329	382/10,154,181,190,191,209,217- 220,276-278.ccls.	US-PGPUB; USPAT	2005/01/28 08:05
14	BRS	7490	S12 or S13 or S11	US-PGPUB; USPAT	2005/01/28 08:05
15	BRS	31506	identify\$4 and (set with features) and object\$2	US-PGPUB; USPAT	2005/01/28 08:06
16	BRS	6650	identify\$4 and (set with features with object\$2)	US-PGPUB; USPAT	2005/01/28 08:07
17	BRS	332	(S10 or S14) and (identify\$4 and (set with features with object\$2))	US-PGPUB; USPAT	2005/01/28 08:08
18	BRS	124	(S10 or S14) and (identify\$4 and (set with features with object\$2) and vector\$2)	US-PGPUB; USPAT	2005/01/28 08:13
19	BRS	114	(S10 or S14) and (identify\$4 and (set with features with object\$2) and vector\$2 and generat\$4)	US-PGPUB; USPAT	2005/01/28 08:14
20	BRS	25	(S10 or S14) and (identify\$4 and (set with features with object\$2) and vector\$2 and generat\$4 and hash\$4)	US-PGPUB; USPAT	2005/02/01 08:22

21	BRS	4	(hash\$4 with vector\$2 with coordinate\$2)	US-PGPUB; USPAT	2005/01/28 08:19
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	Type	Hits	Search Text	DBs	Time Stamp
22	BRS	10	sum\$5 with hash\$4 with vector\$2	US-PGPUB; USPAT	2005/01/28 08:21
23	BRS	12362	-bit with representation	US-PGPUB; USPAT	2005/01/28 08:23
24	BRS	3488	-bit with representation and vector\$2	US-PGPUB; USPAT	2005/01/28 08:24
25	BRS	737	-bit with representation with value\$2 and vector\$2	US-PGPUB; USPAT	2005/01/28 08:48
26	BRS	285	-bit with representation with value\$2 and vector\$2 and coordinate\$2	US-PGPUB; USPAT	2005/01/28 08:24
27	BRS	3	(creat\$4 with -bit with representation with value\$2) and vector\$2 and coordinate\$2	US-PGPUB; USPAT	2005/01/28 08:25
28	BRS	204	-bit with representation with value\$2 and vector\$2 and coordinate\$2 and creat\$4	US-PGPUB; USPAT	2005/01/28 08:39
29	BRS	17	-bit with representation with value\$2 and vector\$2 and coordinate\$2 and creat\$4 and hash\$4	US-PGPUB; USPAT	2005/01/28 08:30
30	BRS	28	-bit with representation with value\$2 with vector\$2 and coordinate\$2	US-PGPUB; USPAT	2005/01/28 08:30
31	BRS	79	-bit with representation with value\$2 and vector\$2 and coordinate\$2 and creat\$4 and tree	US-PGPUB; USPAT	2005/01/28 08:44
32	BRS	1	"5263124".pn.	US-PGPUB; USPAT	2005/01/28 08:44
33	BRS	140	-bit adj representation with value\$2 and vector\$2	US-PGPUB; USPAT	2005/01/28 08:54
34	BRS	66	-bit adj representation with value\$2 and vector\$2 and creat\$4 and calculat\$4	US-PGPUB; USPAT	2005/01/28 09:06
35	BRS	25	-bit adj representation with value\$2 and vector\$2 and creat\$4 and calculat\$4 and coordinate\$2	US-PGPUB; USPAT	2005/01/28 09:14
36	BRS	584	similarity and sketch\$2	US-PGPUB; USPAT	2005/01/28 09:16
37	BRS	420	similarity and sketch\$2 and object\$2	US-PGPUB; USPAT	2005/01/28 09:17
38	BRS	86	(S10 or S14) and (similarity and sketch\$2 and object\$2)	US-PGPUB; USPAT	2005/02/01 09:16
39	BRS	12672	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/02/01 08:10

	Type	Hits	Search Text	DBs	Time Stamp
40	BRS	8231	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/02/01 08:10
41	BRS	18236	S43 or S44	US-PGPUB; USPAT	2005/02/01 08:10
42	BRS	441	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/02/01 08:10
43	BRS	2909	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/02/01 08:10
44	BRS	4336	382/10,154,181,190,191,209,217- 220,276-278.ccls.	US-PGPUB; USPAT	2005/02/01 08:10
45	BRS	7500	S47 or S48 or S46	US-PGPUB; USPAT	2005/02/01 08:10
46	BRS	23	summation and (compress\$4 with object\$2 with group\$2)	US-PGPUB; USPAT	2005/02/01 09:17
47	BRS	7	(S45 or S49) and (summation and (compress\$4 with object\$2 with group\$2))	US-PGPUB; USPAT	2005/02/02 16:42
48	BRS	987	multipl\$4 with weight\$2 with vector\$2	US-PGPUB; USPAT	2005/02/01 11:27
49	BRS	12672	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/02/01 11:27
50	BRS	8231	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/02/01 11:27
51	BRS	18236	S53 or S54	US-PGPUB; USPAT	2005/02/01 11:27
52	BRS	441	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/02/01 11:27
53	BRS	2909	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/02/01 11:27
54	BRS	4336	382/10,154,181,190,191,209,217- 220,276-278.ccls.	US-PGPUB; USPAT	2005/02/01 11:27
55	BRS	7500	S57 or S58 or S56	US-PGPUB; USPAT	2005/02/01 11:27
56	BRS	50	(S55 or S59) and (multipl\$4 with weight\$2 with vector\$2)	US-PGPUB; USPAT	2005/02/01 11:28
57	BRS	3	(S55 or S59) and (multipl\$4 with weight\$2 with vector\$2) and hash\$4	US-PGPUB; USPAT	2005/02/01 12:35
58	BRS	6495	(sum\$5 or add\$4) with (product or result\$4) with vector\$2	US-PGPUB; USPAT	2005/02/01 12:36
59	BRS	280	(S55 or S59) and ((sum\$5 or add\$4) with (product or result\$4) with vector\$2)	US-PGPUB; USPAT	2005/02/01 12:37
60	BRS	44	(S55 or S59) and (((sum\$5 or add\$4) with (product or result\$4) with vector\$2) and hash\$4)	US-PGPUB; USPAT	2005/02/02 15:53

	Type	Hits	Search Text	DBs	Time Stamp
61	BRS	9	(S55 or S59) and (((sum\$5 or add\$4) with (product) with vector\$2) and hash\$4)	US-PGPUB; USPAT	2005/02/01 14:47
62	BRS	959	pseudo with random with number with generator\$2 and seed\$4	US-PGPUB; USPAT	2005/02/01 14:48
63	BRS	233	(pseudo with random with number with generator\$2) and seed\$4 and vector\$2 and hash\$4	US-PGPUB; USPAT	2005/02/01 14:49
64	BRS	3	(S55 or S59) and ((pseudo with random with number with generator\$2) and seed\$4 and vector\$2 and hash\$4)	US-PGPUB; USPAT	2005/02/01 14:50
65	BRS	12672	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/02/02 15:02
66	BRS	8231	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/02/02 15:02
67	BRS	18236	S69 or S70	US-PGPUB; USPAT	2005/02/02 15:02
68	BRS	441	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/02/02 15:02
69	BRS	2909	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/02/02 15:02
70	BRS	4336	382/10,154,181,190,191,209,217-220,276-278.ccls.	US-PGPUB; USPAT	2005/02/02 15:02
71	BRS	7500	S73 or S74 or S72	US-PGPUB; USPAT	2005/02/02 15:02
72	BRS	105	(hash\$4 with function\$2) and ("bit-by-bit" or bitwise with compar\$6)	US-PGPUB; USPAT	2005/02/02 16:44
73	BRS	5	(S71 or S75) and ((hash\$4 with function\$2) and ("bit-by-bit" or bitwise with compar\$6))	US-PGPUB; USPAT	2005/02/02 16:44
74	BRS	12715	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/02/03 07:58
75	BRS	8268	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/02/03 07:58
76	BRS	18315	S78 or S79	US-PGPUB; USPAT	2005/02/03 07:58
77	BRS	442	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/02/03 07:58
78	BRS	2911	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/02/03 07:58
79	BRS	4343	382/10,154,181,190,191,209,217-220,276-278.ccls.	US-PGPUB; USPAT	2005/02/03 07:58
80	BRS	7510	S82 or S83 or S81	US-PGPUB; USPAT	2005/02/03 07:58

81	BRS	12715	707/1-3,5,10.ccls.	US-PGPUB; USPAT	2005/02/04 07:56
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	Type	Hits	Search Text	DBs	Time Stamp
82	BRS	8268	707/100,102,104.1.ccls.	US-PGPUB; USPAT	2005/02/04 07:56
83	BRS	18315	S85 or S86	US-PGPUB; USPAT	2005/02/04 07:56
84	BRS	442	708/200,422-424.ccls.	US-PGPUB; USPAT	2005/02/04 07:56
85	BRS	2911	345/418,419,427.ccls.	US-PGPUB; USPAT	2005/02/04 07:56
86	BRS	4343	382/10,154,181,190,191,209,217- 220,276-278.ccls.	US-PGPUB; USPAT	2005/02/04 07:56
87	BRS	7510	S89 or S90 or S88	US-PGPUB; USPAT	2005/02/04 07:56

? show files;ds
File 2:INSPEC 1969-2004/Nov W3
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(c) 2004 ProQuest Info&Learning
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(c) 2004 The HW Wilson Co.
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(c) 2003 EBSCO Pub.
File 256:TecInfoSource 82-2004/Nov
(c) 2004 Info.Sources Inc
File 474:New York Times Abs 1969-2004/Dec 03
(c) 2004 The New York Times
File 475:Wall Street Journal Abs 1973-2004/Dec 03
(c) 2004 The New York Times
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group

Set	Items	Description
S1	74	AU=(CHARIKAR, M? OR CHARIKAR M?)
S2	0	AU='MOSES S'
S3	1355006	OBJECT OR OBJECTS OR JDO OR UNIT? ? OR CODE? ? OR INSTANCE OR OOP OR ENTITY OR ENTITIES
S4	1522393	SKETCH? OR COMPOSITE? ? OR DRAWING? ? OR REPRESENTATION? ? OR PICTURE? ? OR IMAGE? ? OR IMAGING
S5	181447	(CREAT? OR BUILD? OR ESTIMAT? OR GENERA? OR EXTRACT? OR CO- NSTRUCT? OR PRODUCE? OR PRODUCING OR PRODUCTION? OR OUTPUT? OR DESIGN?) (6N)S4
S6	1202227	SIMILIAR? OR LIKENESS OR COMMON? OR TRAIT? OR FEATURE? ? OR REDUNDANC? OR ONENESS? OR SAMENESS OR IDENTICAL?
S7	113629	S6(6N)(MATCH? OR COMPARE? OR COMPARING OR IDENTIF? OR COMP- ARISON? OR OVERLAP? OR EVALUAT? OR OVER()LAP? OR ANALYS? OR A- NALYZ? OR DETERMIN? OR COMPUTE OR COMPUTING OR COMPUTES OR CA- LCULAT?)
S8	1803819	VECTOR? OR RESULTANT? ? OR F()SPACE? OR SPATIAL OR COORDIN- ATE? ? OR LINEAR? OR ALGORITHM?
S9	1080806	WEIGHT? OR SCORE? OR SCORING OR GRADE? OR VALUE
S10	26845	PREDETERMINED()HASH? OR MULTIPLIER?
S11	1397456	PRODUCT? ? OR MULTIPLY? OR MULTIPLICATION?
S12	1464254	SUM OR SUMS OR SUMMING OR ADD OR ADDS OR ADDITION OR TOTAL?
S13	24	X()BIT? ? OR XBIT? ?
S14	1355006	S3 OR MC=T01-F07?
S15	0	IC=G06F-009/44
S16	1120	S5 AND S7 AND S8 AND (S9:S15)
S17	0	S5 AND S7 AND S8 AND S9 AND S10 AND S11 AND S12
S18	17	(S3 OR S15) AND S5 AND S7 AND S8 AND S9 AND (S10:S13)
S19	13	S18 NOT PY>2001
S20	13	RD (unique items)

? t20/7/all

20/7/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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7176996 INSPEC Abstract Number: B2002-03-6135-247, C2002-03-7250R-015

Title: Constructing **models for content-based** image **retrieval**

Author(s): Schmid, C.

Author Affiliation: INRIA, Montbonnot, France

Conference Title: Proceedings of the 2001 IEEE Computer Society

Conference on Computer Vision and Pattern Recognition. CVPR 2001 Part
vol.2 p.II-39-45 vol.2

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2001 Country of Publication: USA 2
vol.(xxx+1186+806) pp.

ISBN: 0 7695 1272 0 Material Identity Number: XX-2001-02818

U.S. Copyright Clearance Center Code: 0-7695-1272-0/01/\$10.00

Conference Title: Proceedings of the 2001 IEEE Computer Society
Conference on Computer Vision and Pattern Recognition. CVPR 2001

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Pattern Analysis
& Machine Intelligence

Conference Date: 8-14 Dec. 2001 Conference Location: Kauai, HI, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P)

Abstract: This paper presents a new method for constructing models from a set of positive and negative sample **images**; the method requires no manual **extraction** of significant **objects** or features. Our model representation is based on two layers. The first one consists of "generic" descriptors which represent sets of similar rotational invariant feature **vectors**. Rotation invariance allows to group similar, but rotated patterns and makes the method robust to model deformations. The second layer is the joint probability on the frequencies of the "generic" descriptors over neighborhoods. This probability is multi-modal and is represented by a set of " **spatial** -frequency" clusters. It **adds** a statistical **spatial** constraint which is rotationally invariant. Our two-layer representation is novel; it allows to efficiently capture "texture-like" visual structure. The selection of distinctive structure **determines** characteristic model **features** (**common** to the positive and rare in the negative examples) and increases the performance of the model. Models are retrieved and localized using a probabilistic **score**. Experimental results for "textured" animals and faces show a very good performance for retrieval as well as localization. (18 Refs)

Subfile: B C

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20/7/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6771662 INSPEC Abstract Number: B2001-01-6135-061, C2001-01-5260B-103

Title: **Trinocular data registration using a three-dimensional self-organizing feature map**

Author(s): Knopf, G.K.; Sangole, A.

Author Affiliation: Dept. of Mech. & Mater. Eng., Univ. of Western Ontario, London, Ont., Canada

Conference Title: SMC 2000 Conference Proceedings. 2000 IEEE International Conference on Systems, Man and Cybernetics. 'Cybernetics Evolving to Systems, Humans, Organizations, and their Complex Interactions' (Cat. No.00CH37166) Part vol.4 p.2863-8 vol.4

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2000 Country of Publication: USA 5 vol.3895 pp.

ISBN: 0 7803 6583 6 Material Identity Number: XX-2000-02509

U.S. Copyright Clearance Center Code: 0 7803 6583 6/2000/\$10.00

Conference Title: Proceedings of IEEE International Conference on Systems, Man, and Cybernetics

Conference Sponsor: Syst., Man and Cybern. Soc. IEEE

Conference Date: 8-11 Oct. 2000 Conference Location: Nashville, TN, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: A three-dimensional self-organizing feature map (SOFM) that associates redundant and complementary features **extracted** from **images** acquired by a trinocular camera system is described. The combined features extracted from three views of the reference parts are used to train the SOFM. The unsupervised learning **algorithm** ensures that "similar" feature **vectors** will be assigned to cluster **units** that lie in close **spatial** proximity in the 3D feature map. The technique reduces the dimensionality of the input by exploiting hidden **redundancies** in the training data. During the **identification** phase, **features** in the novel test part activate a number of cluster **units** that have **weights** similar to the applied training input. If the **sum** -of-square error (SSE) between the input and **weights** of the cluster **unit** with the strongest response is greater than a predefined tolerance, then the test **object** is labeled as faulty part. (5 Refs)

Subfile: B C

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20/7/3 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

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6503522 INSPEC Abstract Number: A2000-06-2846-012, C2000-03-7470-023

Title: **WORM: a general-purpose input deck specification language**

Author(s): Jones, T.

Author Affiliation: Los Alamos Nat. Lab., NM, USA

Journal: Transactions of the American Nuclear Society Conference Title: Trans. Am. Nucl. Soc. (USA) vol.81 p.164-5

Publisher: ANS,

Publication Date: 1999 Country of Publication: USA

CODEN: TANSAO ISSN: 0003-018X

SICI: 0003-018X(1999)81L.164:WGPI;1-B

Material Identity Number: T064-1999-002

Conference Title: 1999 Winter Meeting of American Nuclear Society (papers in summary form only received)

Conference Date: 14-18 Nov. 1999 Conference Location: Long Beach, CA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: Using computer **codes** to perform criticality safety **calculations** has become **common** practice in our industry. The vast majority of these **codes** use simple text-based input decks to represent the geometry, materials, and other parameters that describe the problem. However, the data specified in input files are usually processed results themselves. For example, input decks tend to require the geometry specification in **linear** dimensions and materials in atom or **weight** fractions, while the parameter of interest might be mass or concentration. The calculations needed to convert from the item of interest to the required parameter in the input deck are usually performed separately and then incorporated into the input deck. This process of calculating, editing, and renaming files to perform a simple parameter study is tedious at best. In **addition**, most computer **codes** require dimensions to be specified in centimetres, while **drawings** or other materials used to **create** the input decks might be in other **units**. This also requires additional calculation or conversion prior to composition of the input deck. These additional calculations, while extremely simple, introduce a source for error in both the calculations and transcriptions. To overcome these difficulties, WORM (Write One, Run Many) was created. It is an

easy-to-use programming language to describe input decks and can be used with any computer **code** that uses standard text files for input. (0 Refs)

Subfile: A C

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20/7/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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5021272 INSPEC Abstract Number: A9517-8760B-014, B9509-7510B-130

Title: Segmentation and analysis of colour Doppler images of tumour vasculature

Author(s): Bell, D.S.; Bamber, J.C.; Eckersley, R.J.

Author Affiliation: Joint Dept. of Phys., Inst. of Cancer Res., Sutton, UK

Journal: Ultrasound in Medicine & Biology vol.21, no.5 p.635-47

Publication Date: 1995 Country of Publication: UK

CODEN: USMBA3 ISSN: 0301-5629

U.S. Copyright Clearance Center Code: 0301-5629/95/\$9.50+.00

Language: English Document Type: Journal Paper (JP)

Treatment: Experimental (X)

Abstract: A technique has been developed to segment (separate), from a digitized colour Doppler video image, the colour and greyscale information and then to estimate from the colour information the original mean Doppler frequency shift data from which the **image** was created. The remapped velocity **image** is then **analysed** to **extract** numerical **features** of the tumour vasculature. The present version of the software is set-up to work for an Acuson 128 colour Doppler system using the V4 colour scale, although it should work well with any system which modulates only two colours for each flow direction and displays a colour calibration scale at the side of the image. Accuracy of classification of greyscale, colour and flow direction was estimated as being in the region of 95% for typical breast tumour images. The degree of agreement between the remapped colour velocity values and those stated by the scanner at the same image locations was evaluated in terms of the **linearity** of the relationship (>99%), precision (better than $\pm 5\%$) and accuracy (better than 7.6%). We investigated the **value**, for diagnosis and assessment of response of, a variety of characteristics of the displayed vascularity. At present, the software **calculates** the following vascular image **features** within any region of interest defined by the operator: mean displayed velocity, maximum displayed velocity, standard deviation of displayed velocity, **total** area occupied by colour signal, percentage area occupied by colour signal, area integral of displayed velocity and the **total** displayed velocity per **unit** area. (14 Refs)

Subfile: A B

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20/7/5 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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5019350 INSPEC Abstract Number: A9517-4230-011, B9509-6140C-529, C9509-1260-168

Title: Design of optimal statistical filter for the discrete convolution backprojection method

Author(s): Dhariyal, I.D.; Rathore, R.K.S.; Srivastava, T.; Munshi, P.; Rastogi, R.

Author Affiliation: Dept. of Math., Indian Inst. of Technol., Kanpur,

India

Journal: American Journal of Mathematical and Management Sciences
vol.14, no.3-4 p.229-65

Publication Date: 1994 Country of Publication: USA

CODEN: AMMSDX ISSN: 0196-6324

U.S. Copyright Clearance Center Code: 0196-6324/94/030229-37\$42.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: A statistically optimal convolving function (filter) is derived for discrete implementation of the convolution backprojection method. The method of derivation simultaneously takes into account (i) "the process" **generating the object images**, (ii) the data collection geometry, (iii) the discretization scheme used, (iv) various interpolations used, and (v) the data noise. The proposed filter minimizes the expected **weighted sum** of squared errors in pixel reconstructions. The performance of this optimal filter in reconstructing discretized images by the convolution backprojection method is **compared** with that of some of the **commonly** -used filters. (20 Refs)

Subfile: A B C

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20/7/6 (Item 6 from file: 2)

DIALOG(R) File 2:INSPEC

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4165462 INSPEC Abstract Number: B9207-6140C-134, C9207-1250-122

Title: Using local orientation and hierarchical spatial feature matching for the robust recognition of objects

Author(s): Seitz, P.; Lang, G.K.

Author Affiliation: Paul Scherrer Inst. Zurich, Switzerland

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)
vol.1606, pt.1 p.252-9

Publication Date: 1991 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

Material Identity Number: C574-91200

U.S. Copyright Clearance Center Code: 0277-786X/91/\$4.00

Conference Title: Visual Communications and Image Processing '91: Image Processing

Conference Sponsor: SPIE

Conference Date: 11-13 Nov. 1991 Conference Location: Boston, MA, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: The fundamental picture primitives employed are local orientations, rather than the more traditionally used edge positions. A simple technique of **feature - matching** is based on the accumulation of evidence in binary channels (similar to the Hough transform) followed by a **weighted non-linear sum** of the evidence accumulators (matched filters, similar to those used in neural networks). By layering of this simple **feature - matcher** a hierarchical scheme is **produced** whose base is a binary **representation** of local orientations. The individual layers represent increasing levels of abstraction in the search for an **object**, which can be arbitrarily complex. The universal **algorithm** presented can be implemented in less than 100 lines of a high-level programming language (e.g. Pascal). As evidenced by practical examples of various complexities, **objects** can be identified reliably and robustly in a wide variety of surroundings. (18 Refs)

Subfile: B C

20/7/7 (Item 7 from file: 2)

DIALOG(R) File 2:INSPEC

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04165409 INSPEC Abstract Number: C9207-6140D-018

Title: **PML: product modelling language**

Author(s): Gu, P.

Author Affiliation: Dept. of Mech. Eng., Calgary Univ., Alta., Canada

Journal: Computers in Industry vol.18, no.3 p.265-77

Publication Date: March 1992 Country of Publication: Netherlands

CODEN: CINUD4 ISSN: 0166-3615

U.S. Copyright Clearance Center Code: 0166-3615/92/\$05.00

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Presents the development of a design modelling language called PML (**product** modelling language) based on **analysis** of CAD systems, modelling, and **feature** -based modelling. The language is a unique representation of **product** , solid and features, and an effective communication method for linking design and various manufacturing activities. The language consist of five levels: **product** level, **unit** level, part level, form-feature level, and feature-boundary level each providing particular information. The **product** level includes information regarding the whole **product** such as **product** name, size, **weight** , specifications, directly assembled parts and sub-assemblies. At the **unit** level, information such as **unit** name, specifications, directly assembled parts and sub-assemblies is provided. The part level concerns information for the entire component such as part name, classification **code** , heat-treatment requirements, material type, and all solid primitives which form the part in a chosen solid modeller. At the form-feature level, information is required by the chosen solid modeller such as CSG (constructive solid geometry) primitives, their dimensions and locations in a given **coordinate** system. The feature-boundary level is **designed** associated with the boundary **representation** . At this level, the detailed primitives information is provided such as dimensions, locations, tolerances, relations, surface finish and the like. (9 Refs)

Subfile: C

20/7/8 (Item 1 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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01798350 ORDER NO: AADAA-IC720011

BOUNDARY DETECTION IN CARDIOVASCULAR ULTRASONIC IMAGES BASED ON MULTISCALE DYNAMIC PROGRAMMING (ARTERY MEASUREMENT)

Author: LIANG, QUAN

Degree: PH.D.

Year: 1999

Corporate Source/Institution: CHALMERS TEKNISKA HOGSKOLA (SWEDEN) (0419)

Source: VOLUME 60/04-C OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 796. 120 PAGES

ISBN: 91-7197-781-3

Non-invasive ultrasonic imaging is widely used in cardiovascular studies as well as clinical diagnostics. This is due to its non-invasiveness, low cost and easy operation. However, ultrasonic images are noisy and present artifacts, speckles, and echo dropouts. The interpretation and measuring of these images are usually carried out

manually by clinical experts with the assistance of computerized interactive analysis systems. One of the main tasks of the operator is to trace the boundaries of **objects** such as vessel walls and heart chambers. Although research has proven that manually tracings correlate reasonably well with true anatomy, intra- and inter-observer variability is high because of the inherent subjectiveness. Besides this, the manual procedure is time consuming and laborious. Hence automated analysis techniques including **object** boundary detection in medical ultrasonic images are highly desirable.

The present Thesis deals with problem of automated and quantitative ultrasonic measurement of the human superficial arteries as well as heart chambers. In particular, for the artery images, a new boundary detection approach is reported. By applying a multiscale dynamic programming **algorithm**, approximate positions of the artery wall are first **estimated** in a coarse scale **image**. Then, under the guidance of this **estimate**, the exact boundary positions are detected in a fine scale image. For both coarse and fine scale images, dynamic programming is applied for finding a global and optimal solution to the problem. of minimizing a cost function. The cost function is a **weighted sum** of terms, in the form of fuzzy expressions, representing multiple image features and geometrical characteristics of the boundaries. Prior to detection, the **weights** of the cost function are adjusted by a training procedure using human expert tracings. The method makes it possible that the human intervention, when needed, also function in the framework of optimality in minimizing the cost function. The resulting detection **algorithm** is robust, reduces the amount of human interventions and consequently reduces inter- and intra-operator variability. A thorough evaluation of the method as applied to clinically acquired artery images was performed. The artery measurement results showed a high correlation between automated and manual measurements ($r = 0.98-1.00$). Inter-observer variability decreased by 82% and 50% as **compared** to the manual system for **common** carotid artery lumen diameter and wall-thickness, respectively. The overall analysis time was reduced by two thirds.

A specific problem in relation to automated boundary detection in ultrasonic imagery concerns noise suppression. The Thesis presents a novel technique for edge-preserving noise reduction referred to as IsoIntensity Directional Smoothing (IISD). Pre-processing the artery images using IIDS did not improve boundary detection. Although originally intended for ultrasonic imagery, it can be anticipated that IIDS performs better for other types of images, specifically those with Gaussian type noise and low signal-to-noise ratio. This was demonstrated by a quantitative comparison between IIDS and some well-known filters belonging to the same category.

20/7/9 (Item 2 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online
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01570510 ORDER NO: AAD97-24024

IMAGE UNWARPING AND DIFFERENCE ANALYSIS: A TECHNIQUE FOR DETECTING ABNORMALITIES IN MAMMOGRAMS

Author: SALLAM, MAHA YOUSEF

Degree: PH.D.

Year: 1997

Corporate Source/Institution: UNIVERSITY OF SOUTH FLORIDA (0206)

Major Professor: KEVIN W. BOWYER

Source: VOLUME 58/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 1376. 110 PAGES

Corresponding images are used by radiologists as a source of

information for determining the existence of abnormalities in mammograms. The images may be time sequences of the same breast from two different screening exams, or they may be bilateral images of the left and right breasts obtained during the same session. A fully automated mammogram comparison technique is proposed for identifying differences between corresponding images. The technique recovers an approximate measure of the deformation between a pair of mammograms based on **identifying** corresponding **features** across the two images. Two types of features are used: **object boundary features**, and texture **features**. **Matching** of **object boundary features** is more tolerant to large deformations, and hence these features are used to recover most, of the global component of the deformation. The texture **features** are more difficult to **match**. However, their matching becomes more reliable by removing the global deformation recovered using boundary features. The texture features help recover more of the local component of deformation by virtue of having a better distribution throughout the **image**. Once an **estimate** of the deformation between an **image** pair is recovered, the registration process is completed using an unwarping technique for transforming one image into the **coordinate** system of the other. A difference **image** between the two registered **images** is **generated** using intensity- **weighted** subtraction in order to identify dense regions of large difference which often characterize potential abnormalities. Rigorous evaluation of the mammogram subtraction technique, and the extent to which the difference image reveals information about potential abnormalities, is performed using 145 bilateral image pairs which contain a **total** of 77 abnormalities of different types. A small set of 8 pairs of abnormal time sequences of mammograms is also used in the evaluation. The mammogram registration technique was successful in **generating** difference **images** in which at least 80% of the abnormalities were clearly identified by simple thresholding. The degree to which abnormalities are detectable by the proposed technique differs with the type, size and subtlety of the abnormality. Undetected abnormalities are analyzed in order to understand how corresponding image analysis can be complemented by other techniques in fully automated mammogram analysis systems.

20/7/10 (Item 3 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01293157 ORDER NO: AADNN-75409

AN EXPLORATORY STUDY OF STUDENTS' REPRESENTATIONS OF UNITS AND UNIT RELATIONSHIPS IN FOUR MATHEMATICAL CONTEXTS (MULTIPLICATION , FRACTIONS, MEASUREMENT UNITS)

Author: CANNON, PAMELA LYNNE

Degree: D.ED.

Year: 1991

Corporate Source/Institution: THE UNIVERSITY OF BRITISH COLUMBIA
(CANADA) (2500)

Source: VOLUME 54/02-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 449. 347 PAGES

ISBN: 0-315-75409-5

This study explores characteristics of students' repertoires of representations in two mathematical contexts: whole number **multiplication** and the **comparison** of **common** fractions. A repertoire of representations refers to a set of representations which a student can reconstruct as needed. Of particular interest are (1) how multiplicative relationships among **units** were represented, and (2) whether continuous measurement was an underlying conceptual framework for their representations. In **addition**

, the characteristics of students' representations and interpretation of **units** of **linear** and area measurement were explored. Data were collected through a series of interviews with **Grade 5** and **Grade 7** students.

Some results of the study were as follows. Each repertoire of representations was exemplified by a dominant form of **units**, either discrete or contiguous. Within a repertoire, all forms of **units** were related, first through a common system of measurement (either numerosity or area), and second through their two-dimensional characteristic.

In the **multiplication** context, some repertoires were comprised only of representations with discrete **units**, but others also included some representations with contiguous **units**. Students sought characteristics in their representations which reflected those based on continuous measurement, however **linear** or area measurement was not used as a conceptual framework. Instead, all representations were based on the measurement of numerosity. Also, students exhibited different limits in their representation of multiplicative relationships among **units**. Some represented no multiplicative relationships, but most represented at least a multiplicative relationship between two **units**. Relationships among three **units** were seldom constructed and difficult to achieve.

Common fraction repertoires were based on the measurement of either numerosity or area, but the physical characteristics of the **units** varied. Some repertoires had only contiguous representations of **units**, others also included representations with discrete **units**, and a few did not represent fractional **units** at all. Students' representations reflected characteristics of area-based representations, however area measurement was not necessarily a conceptual framework. In **addition**, students' beliefs about what constituted **units** of area measurement were variable. As a result, they either represented no multiplicative relationships among **units**, or fluctuated between representing two- **unit** and three- **unit** relationships.

Linear measurement was notably absent as a basis for representations in both mathematical contexts. The one-dimensional characteristic of **linear** measurement did not fit students' dominant framework for **constructing mathematical representations**.

With respect to measurement, students represented **linear units** in terms of discrete points or line segments. Counting points and interpreting the count in terms of the numerosity of line segments was problematic for nearly all students. When partitioning regions into **units** of area, a few students also equated the number of lines with the number of parts. The direct relationship of action and result in counting discrete **objects** was generalized without consideration of other geometric characteristics.

When comparing quantities having **linear** or area **units**, numerical reasoning was not always used. Alternatively, either quantities were transformed to facilitate a direct comparison, or only perceptual judgements were made. No students consistently used numerical reasoning to compare fractional **units** of area. In the latter situations, the part-whole relationship among **units** seldom was observed.

In general, there was no direct relationship between the forms of representations used by students in the two mathematical contexts and the characteristics of their representations of **units** of the measurement contexts. The development of repertoires of representations appears to be context specific. The repertoires were strictly limited in terms of the forms of representations of which they were comprised.

GUIDED IMAGE INTERPRETATION IN NEUROANATOMY (BRAIN MAPPING)

Author: GUAN, SHENG-YIH

Degree: PH.D.

Year: 1991

Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)

Chair: BRUCE H. MCCORMICK

Source: VOLUME 53/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 390. 208 PAGES

Image registration techniques **match** homologous **features** in pairs of images and perform smooth deformation (or mapping) so that the size and shape of any **object** in one image (i.e., atlas image) closely approximates the size and shape of that **object** in the other image (i.e., test image). Through this process, similar **objects** in pairs of images can be brought into correspondence, which facilitates cross comparisons, integrated display, and **object** recognition.

A point-based registration approach is used in our 3D deformable brain atlas. Gaussian radial basis functions (RBFs), whose centers correspond to matching points, are used as the basis of the mapping function. Gaussian RBFs are more powerful than thin-plate splines in that the spread **value** in the Gaussian determines whether the mapping effect is predominantly local or global. Analytically derived from three optimization approaches--regularization theory, Boolean **sums**, and Lancaster-and-Salkauskas' optimization procedure, pure Gaussian RBFs are augmented with **linear** polynomial basis functions. We prove that these augmented Gaussian RBFs can smoothly interpolate at matching points and also reproduce affine transformations exactly.

Landmarks (i.e., matching points) are usually located on high-contrast boundaries. Therefore, landmarks augmented with boundary segments (in 2D) or surface patches (in 3D) are used in our real-time user-guided image mapping process. The intermediate mapping results at these matching cues, rather than the image itself, are used to distinguish good mappings from bad mappings. For pairs of images with similar characteristics, we use a fast Sequential Similarity Detection **algorithm** to reliably detect homologous landmarks in the test image. For pairs of images with dissimilar characteristics, we use an optimization procedure based on boundary segments or surface patches to achieve this.

Symbolic attributes are stored with pixels in the atlas images. Once the atlas and the test image have been registered through our mapping approach, atlas information can then be used to interpret and analyze the test image.

Finally, based on this point-based registration using Gaussian RBFs, we propose an **object**-oriented **design** to register and integrate digital **images generated** from different sources to **create an image** database/knowledge base system--i.e., the 3D deformable brain atlas.

20/7/12 (Item 5 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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0955131 ORDER NO: AAD87-10609

DECISION ANALYSIS FOR THE TERMS OF A SECOND MORTGAGE

Author: THOMPSON, DUVAL GIROUX

Degree: PH.D.

Year: 1986

Corporate Source/Institution: NEW YORK UNIVERSITY, GRADUATE SCHOOL OF
BUSINESS ADMINISTRATION (0868)

Source: VOLUME 48/03-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 687. 296 PAGES

Objective. The objective of this study is to develop models to aid the search for terms for a second mortgage on an income producing property, that maximize the benefits to the buyer, or the seller, or the buyer and seller jointly, while managing the level of the buyer's liquidity-risk and investment return-risk.

Models. Four models are developed: two for the buyer's benefits, one for the seller's benefits, and one to **sum** the buyer and seller benefits at a common point in time. The first model of the buyer's benefits determines tax liability by using tax rate parameters; the second model determines tax liability by using a tax rate schedule and detailed taxable income **calculations**. The models **feature**: installment sale, imputed interest, disposition of installment sale obligation, alternative minimum tax, and tax table indexing provisions of the United States Tax **Code**; both current dollar and constant dollar valuation given an exogenous inflation scenario; and several methods for modeling the property tax and initial tax basis as a function of the terms of the second mortgage.

Criteria. Future **value** and rate of return criteria which are consistent in investment ranking are developed. The risk-return efficient set of mortgage term alternatives is generated, and then examined in three stages: a risk screening stage, a ruinous loss screening stage, and a risky alternative selection stage.

Methodology. The **algorithms** used were selected because they are efficient in computer execution time. Moment Equation Simulation is used for risk analysis. Moment equations for a piecewise **linear** function of a beta distributed variate, the maximum of a constant and a beta variate, and an equation for the expected loss of a beta variate, are derived, and other moment equations are cited. Response surface methodology is used to **generate** the efficient set. An orthogonal **composite** experimental **design** is used to fit multivariate quadratics in terms of the decision variables, to the statistical moments of the criteria. Single or dual response ridge analysis, or general nonlinear programming, is used to generate the efficient set depending upon the requirements of the problem formulation.

20/7/13 (Item 6 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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805501 ORDER NO: AAD83-06755

**AN INTEGRATION OF RESEARCH FINDINGS FROM INVESTIGATIONS OF PICTORIAL
STIMULUS COMPLEXITY**

Author: ANGERT, JAY FRANKLIN

Degree: PH.D.

Year: 1982

Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)

Source: VOLUME 43/11-A OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 3489. 272 PAGES

The purpose of this study was to generate future research hypotheses from research integration results. This integration was limited to the body of research studies utilizing static illustrations in instructional materials. Differential instructional effectiveness of five iconic coding elements (representation realism, chroma, context, embellishment, and shading) was examined in relation to time of testing, presentation pacing, and **grade** level.

A three-tiered screening procedure was used to pare 701 research reports to the sample's 121 data sets. Meta- **analysis** techniques were used to **calculate** a **common** metric of achievement effect for these studies.

The data yielded 2,607 effect-size measures, interpreted as standard deviation differences between treatment groups. Multiple **linear** regression and frequency analyses identified six potential interactions (**grade** level by time of testing, **grade** level by pacing, **grade** level by chroma, representation realism by chroma, pacing by embellishment, and **representation** realism by pacing).

Jackknifing techniques **produced** a grand mean and separate means for main effects and for individual cells of the potential interactions. Jackknifing the effect-size means equalized the contribution to the overall mean from studies with unequal numbers of effect-size values. Jackknifed mean differences were described in terms of small, medium, and large levels of practical significance. Effect-size values were interpreted both in terms of the size of the mean differences between the predictor variables and verbal control groups, and in terms of the size of the mean differences between levels of the **coded** variables. Hypotheses for both types of effect-size differences were proposed at each practical significance level. A **total** of 39 hypotheses were derived.

Positive picture effects were noted for 65 of the 68 jackknifed means. Small practical significance levels were reached on 54 occasions, and large significance levels were reached 13 times. By combining the various effect-size values, the most consistently effective illustrations were nonembellished colored chirographs, presented with external pacing, in **grade** levels 7-12. The least effective illustrations were any black and white pictures (either chirographs or photographs) presented with internal pacing at the college level, and evaluated under delayed testing conditions.

?

? show files;ds
File 350:Derwent WPIX 1963-2004/UD,UM &UP=200478
(c) 2004 Thomson Derwent
File 344:Chinese Patents Abs Aug 1985-2004/May
(c) 2004 European Patent Office
File 347:JAPIO Nov 1976-2004/Aug(Updated 041203)
(c) 2004 JPO & JAPIO
File 371:French Patents 1961-2002/BOPI 200209
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Set	Items	Description
S1	0	AU=(CHARIKAR, M? OR CHARIKAR M?)
S2	1	AU='MOSES S'
S3	3370358	OBJECT OR OBJECTS OR JDO OR UNIT? ? OR CODE? ? OR INSTANCE OR OOP OR ENTITY OR ENTITIES
S4	4563439	SKETCH? OR COMPOSITE? ? OR DRAWING? ? OR REPRESENTATION? ? OR PICTURE? ? OR IMAGE? ? OR IMAGING
S5	380175	(CREAT? OR BUILD? OR ESTIMAT? OR GENERA? OR EXTRACT? OR CO- NSTRUCT? OR PRODUCE? OR PRODUCING OR PRODUCTION? OR OUTPUT? OR DESIGN?) (6N)S4
S6	698079	SIMILIAR? OR LIKENESS OR COMMON? OR TRAIT? OR FEATURE? ? OR REDUNDANC? OR ONENESS? OR SAMENESS OR IDENTICAL?
S7	27489	S6(6N) (MATCH? OR COMPARE? OR COMPARING OR IDENTIF? OR COMP- ARISON? OR OVERLAP? OR EVALUAT? OR OVER()LAP? OR ANALYS? OR A- NALYZ? OR DETERMIN? OR COMPUTE OR COMPUTING OR COMPUTES OR CA- LCULAT?)
S8	767902	VECTOR? OR RESULTANT? ? OR F()SPACE? OR SPATIAL OR COORDIN- ATE? ? OR LINEAR? OR ALGORITHM?
S9	2017837	WEIGHT? OR SCORE? OR SCORING OR GRADE? OR VALUE
S10	51714	PREDETERMINED()HASH? OR MULTIPLIER?
S11	1084079	PRODUCT? ? OR MULTIPLY? OR MULTIPLICATION?
S12	1206664	SUM OR SUMS OR SUMMING OR ADD OR ADDS OR ADDITION OR TOTAL?
S13	280	X()BIT? ? OR XBIT? ?
S14	3370884	S3 OR MC=T01-F07?
S15	21715	IC=G06F-009/44
S16	496	S5 AND S7 AND S8 AND (S9:S15)
S17	0	S5 AND S7 AND S8 AND S9 AND S10 AND S11 AND S12
S18	21	(S3 OR S15) AND S5 AND S7 AND S8 AND S9 AND (S10:S13)
?		

? t18/4/all

18/4/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2004 Thomson Derwent. All rts. reserv.

IM- *Image available*
AA- 2004-358889/200434|
XR- <XRPX> N04-287143|
TI- **Coordinates determination** method for **feature** within **image** of
e.g. aircraft portion, involves **estimating** **feature coordinates**
within pixel fraction before and after feature translation, and adding
pixel fraction to new estimation|
PA- UNIV BRISTOL (UYBR-N)|
AU- <INVENTORS> POTTER K D; SETCHELL C; SETCHELL C J|
NC- 106|
NP- 003|
PN- GB 2394543 A 20040428 GB 200224923 A 20021025 200434 B|
PN- WO 200438328 A2 20040506 WO 2003GB4606 A 20031023 200434
PN- AU 2003278336 A1 20040513 AU 2003278336 A 20031023 200468|
AN- <LOCAL> GB 200224923 A 20021025; WO 2003GB4606 A 20031023; AU
2003278336 A 20031023|
AN- <PR> GB 200224923 A 20021025|
FD- WO 200438328 A2 G01B-011/16
<DS> (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR
CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG
PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN
YU ZA ZM ZW
<DS> (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU
IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
FD- AU 2003278336 A1 G01B-011/16 Based on patent WO 200438328|
LA- GB 2394543(32); WO 200438328(E)|
DS- <NATIONAL> AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ
DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL
PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA
ZM ZW|
DS- <REGIONAL> AT; BE; BG; CH; CY; CZ; DE; DK; EA; EE; ES; FI; FR; GB; GH;
GM; GR; HU; IE; IT; KE; LS; LU; MC; MW; MZ; NL; OA; PT; RO; SD; SE; SI;
SK; SL; SZ; TR; TZ; UG; ZM; ZW|
AB- <PN> GB 2394543 A|
AB- <NV> NOVELTY - The **coordinates** of a feature within a fraction of a
pixel of an **object image**, is **estimated**. The feature is translated
such that **sum** of that pixel fraction and the pixel translation is an
integer **value**. The **coordinates** of translated feature within the
pixel fraction, are estimated. The pixel fraction of previous
estimation and the newly estimated **coordinates** are added to obtain
refined feature **coordinates**. |
AB- <BASIC> DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for
the following:
(1) **object** 's dimensional change measuring method;
(2) **object** 's dimensional change detecting apparatus;
(3) **object** position determining apparatus;
(4) method of **determining** three-dimensional changes in **feature** ;

(5) method of determining three-dimensional changes in **object** ;
(6) aircraft structure monitoring method;
(7) aircraft structure monitoring apparatus.
USE - For **determining coordinates** of **features** within image of

a portion of aircraft e.g. engine and avionics, to determine stress and strains caused. Also applicable for testing bridges, buildings, measuring human gait, and for monitoring precision placement of microchip in production setting.

ADVANTAGE - A best estimation of position of feature in a structure is detected with high resolution and without error.

DESCRIPTION OF DRAWING(S) - The figure shows schematic view illustrating projection of pixel array on fractionally shifted pixel array.

initial pixel array (16)

new pixel array (18)

pp; 32 DwgNo 4/11|

DE- <TITLE TERMS> **COORDINATE** ; DETERMINE; METHOD; FEATURE; IMAGE; AIRCRAFT
; PORTION; ESTIMATE; FEATURE; **COORDINATE** ; PIXEL; FRACTION; AFTER;
FEATURE; TRANSLATION; **ADD** ; PIXEL; FRACTION; NEW; ESTIMATE|

DC- S02; T01; W06|

IC- <MAIN> G01B-011/16; G06T-007/20|

IC- <ADDITIONAL> G06K-009/64|

MC- <EPI> S02-A03B3; S02-A06A3; S02-J02X; T01-J07B1; T01-J10B2; W06-B05|

FS- EPI||

18/4/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

IM- *Image available*

AA- 2003-035156/200303|

XR- <XRPX> N03-028085|

TI- Material durability evaluation system, judges whether digital image label is void or non-void based on threshold **value** with reference to scalar **product** |

PA- MITSUBISHI JUKOGYO KK (MITO)|

NC- 001|

NP- 001|

PN- JP 2002333405 A 20021122 JP 2001136723 A 20010507 200303 B|

AN- <LOCAL> JP 2001136723 A 20010507|

AN- <PR> JP 2001136723 A 20010507|

LA- JP 2002333405(10)|

AB- <PN> JP 2002333405 A|

AB- <NV> NOVELTY - A **feature** quantity calculator (15) calculates a multiple **feature** quantity **vector** of a label **extracted** from a digital **image** and a scalar **product** calculator (16) calculates the scalar **product** of the **vector** . An evaluation **unit** (17) judges whether the label is void or non-void based on a threshold **value** with reference to the scalar **product** . |

AB- <BASIC> USE - Material durability evaluation system.

ADVANTAGE - Enables an accurate and automatic evaluation of the material durability in a short time without manual intervention, by judging the label **extracted** from digitized **image** as void or non-void based on the scalar **product** **calculated** from the label's multiple **feature** quantity **vector** .

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the material durability evaluation system. (Drawing includes non-English language text).

Calculator (15)

Scalar **product** calculator (16)

Evaluation **unit** (17)

pp; 10 DwgNo 1/4|

DE- <TITLE TERMS> MATERIAL; DURABLE; EVALUATE; SYSTEM; JUDGEMENT; DIGITAL; IMAGE; LABEL; VOID; NON; VOID; BASED; THRESHOLD; **VALUE** ; REFERENCE; SCALE; **PRODUCT** |

DC- S03; T01|

IC- <MAIN> G01N-021/95|

IC- <ADDITIONAL> G06T-001/00|

MC- <EPI> S03-E04X; T01-J10|

FS- EPI||

18/4/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

IM- *Image available*

AA- 2002-667092/200271|

XR- <XRAM> C02-187402|

XR- <XRPX> N02-527791|

TI- Determination of response of cells to multiple levels of stimulus involves obtaining **feature value** (s), and **identifying** path through separate quantitative phenotypes of cells exposed to stimulus|

PA- CYTOKINETICS INC (CYTO-N); ADAMS C L (ADAM-I); OESTREICHER D R (OEST-I); VAISBERG E A (VAIS-I)|

AA- 2001-608318/200170|
 XR- <XRAM> C01-180933|
 XR- <XRPX> N01-454203|
 TI- Determining characteristics of sample fluid mixtures e.g. urine
 comprises relating measured and transformed values of current and
 voltage for sample- and known fluid|
 PA- FRAUNHOFER GES FOERDERUNG ANGEWANDTEN (FRAU)|
 AU- <INVENTORS> ENDRES H; MUELLER R; PFEIFFER P; WABNER D; WURDACK I|
 NC- 025|
 NP- 001|
 PN- EP 1143240 A1 20011010 EP 2000103882 A 20000224 200170 B|
 AN- <LOCAL> EP 2000103882 A 20000224|
 AN- <PR> EP 2000103882 A 20000224|
 FD- EP 1143240 A1 G01N-027/49
 <DS> (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV
 MC MK NL PT RO SE SI|
 LA- EP 1143240(G<PG> 24)|
 DS- <REGIONAL> AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
 LT; LU; LV; MC; MK; NL; PT; RO; SE; SI|
 AB- <PN> EP 1143240 A1|
 AB- <NV> NOVELTY - Current/voltage measurements are taken from a fluid,
 transforming the data into a characteristic, (C), space, to obtain a
 first set of C values, the same measurements are taken from a sample
 fluid and similarly transformed, to obtain a second set of C values, at
 least one C of the sample fluid is determined, based on its C values
 related to those of the fluid of known characteristic(s), is new.|
 AB- <BASIC> DETAILED DESCRIPTION - Current/voltage measurements are taken
 from a fluid of known characteristic(s), transforming the data into a
 characteristic, (C), space, to obtain a first set of C values, the same
 measurements are taken from a sample fluid and similarly transformed,
 to obtain a second set of C values, at least one C of the sample fluid
 is determined, based on its C values related to those of the fluid of
 known characteristic(s).

An INDEPENDENT CLAIM is included for apparatus carrying out the
determinations as described. Preferred **Features** : During measurement,
 a cyclic voltage ramp is applied in both directions, and electrolysis
 current is measured. In **addition** , the data is measured for a number
 of reference fluids and a transformation matrix is determined in
 characteristic space. The data is subjected to noise perturbation, to
 obtain more data. The noise added has Gaussian distribution. To
 determine the transformation matrix, a covariance matrix is formed for
 data from the references. Its characteristic **value** and - **vectors** are
 determined. The transformation matrix is formed, yielding a
 construction **algorithm** for measurement **vectors** in a space extended
 from the characteristic **vectors** , of which the characteristic values
 exceed an empirically-predetermined threshold. Determination of
 characteristic values for sample fluid is further elaborated. Further
 techniques applied to the measured data, include Fourier- and wavelet
 transformation. Electrode material used for data acquisition by
 measurement, is invariant, or may be changed to acquire additional
 data. The scanning speed for each stage of measurement is the same. It
 is alternatively varied and measurements are carried out repeatedly,
 pooling the data. Liquids are diluted before measurement, to reach a
 specified conductivity. Before measurement, an inert gas is introduced
 into the fluid, to drive out oxygen dissolved in it.

USE - The method is applied to a body fluid, liquid food or washing
 fluid. It is used to determine a characteristic of a concentration of
 substances, an illness diagnosis result or the duration between sample
 taking and medicament administration. All foregoing applications are
 claimed under method. The invention is especially applicable to
 clinical diagnosis from urine.

ADVANTAGE - The new method avoids subjectivity involved in earlier electrochemical measurements and use of test strips. It avoids the high cost of ownership and operation of an IR spectrometer. It is rapid, contrasting with methods requiring a laboratory, possibly at a remote location. The procedure is economical. Determinations are made reliably and objectively for mixed substances. The measurement itself is fundamentally simple, employing inert electrodes and comparative standardization.

DESCRIPTION OF DRAWING(S) - The measurement cell and concept are illustrated schematically. Graphs of input voltage and **output** current over time, are **sketched** (**Drawing** includes non-English language text).

working-, counter- and reference- electrodes respectively (5, 10, 15)

measurement chamber (20)

single instrument combining measurement and voltage source (25)

pp; 24 DwgNo 1/6|

AB- <TF> TECHNOLOGY FOCUS - COMPUTING AND CONTROL - Preferred Apparatus: Equipment is required for data processing, to conduct matrix transformations, Fourier transforms, wavelet transformation, **summing** and related tasks. Electrode temperature control is provided.

METALLURGY - Preferred Apparatus: The electrode material is gold, platinum or graphite.

ELECTRONICS - Preferred Apparatus: In the apparatus, a signal generator source is required to apply known, time-variant voltages, together with a measurement **unit** for the electrolysis currents developed. The measurement chamber (20) includes working-, counter- and reference- electrodes (5, 10, 15) with a fixed voltage on the reference electrode (15). Measurement and source are combined in a single instrument (25). A current amplifier is provided for electrode current.

DE- <TITLE TERMS> DETERMINE; CHARACTERISTIC; SAMPLE; FLUID; MIXTURE; URINE; COMPRISE; RELATED; MEASURE; TRANSFORM; **VALUE** ; CURRENT; VOLTAGE; SAMPLE; FLUID|

DC- B04; D13; D16; J04; S03|

IC- <MAIN> G01N-027/49|

MC- <CPI> B04-B04B1; B04-B04D; B11-C01; B11-C08; B11-C08E; B12-K04A; D05-H09; J04-B01|

MC- <EPI> S03-E03|

FS- CPI; EPI||

18/4/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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IM- *Image available*

AA- 2001-140010/200115|

XR- <XRAM> C01-041442|

XR- <XRPX> N01-102093|

TI- Collection of images from multiple chromogen comprising illuminating the field of view with narrow band and second band illumination wavelengths, each having unique center wavelength|

PA- TRIPATH IMAGING INC (TRIP-N); TRI PATH IMAGING INC (TRIP-N)|

AU- <INVENTORS> MEYER M G; PERRY D J; RILEY J K; SIBLER A D; SILBER A D|

NC- 026|

NP- 002|

PN- EP 1065496 A2 20010103 EP 2000305385 A 20000627 200115 B|

PN- US 6453060 B1 20020917 US 99343172 A 19990629 200264|

AN- <LOCAL> EP 2000305385 A 20000627; US 99343172 A 19990629|

AN- <PR> US 99343172 A 19990629|

FD- EP 1065496 A2 G01N-015/14
 <DS> (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV
 MC MK NL PT RO SE SI|

LA- EP 1065496(E<PG> 39)|

DS- <REGIONAL> AL; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
 LT; LU; LV; MC; MK; NL; PT; RO; SE; SI|

AB- <PN> EP 1065496 A2|

AB- <NV> NOVELTY - Novel methods for the collection of images from multiple
 chromogen comprising illuminating the field of view with a narrow band
 of illumination wavelengths with a unique center wavelength to
generate a first **image** , and illuminating the field of view with a
 second illumination wavelength with a second unique center wavelength
 to **generate** a second **image** . |

AB- <BASIC> DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for
 the following:

(a) separating contrasts for images of a biological specimen (10)
 comprising obtaining a biological specimen image at a wavelength of
 interest, measuring the zero attenuation grayscale **value** from clear
 areas of the image, computing the attenuation coefficient for all
 pixels in the image from the zero attenuation grayscale **value** and
 pixel values, expressing the attenuation coefficient as the
 concentration times an extinction coefficient for the chromogen at the
 wavelength of interest, and solving the concentration of the chromogen
 at each pixel by dividing the attenuation by the extinction
 coefficient, where the biological specimen has been prepared with a
 chromogen and the image comprises pixels; and

(b) biological specimen image analysis on images collected at
 multiple wavelengths comprising applying a chromogen separator to the
images to **generate** new **images** , segmenting each new **image** ,
 performing **feature calculation** on each segmented **output** ,
 performing **object** classification on each **feature calculation**
 result, integrating the **object** classification to provide **object**
 classifications results, and generating a slide (12) **score** from the
 field of view **score** integrated output, where the data from the
 segmented outputs is used on each **feature calculation** , and the data
 from each of **feature calculation** is used on each **object**
 classification.

USE - For collecting separate images from multiple chromogens in a
 biological specimen.

ADVANTAGE - The method provides a system which automatically
 analyze the biological specimen. It also provides separate molecular
 marker information from morphological features.

DESCRIPTION OF DRAWING(S) - The figure shows a system for
 collecting images at multiple illumination wavelengths.

Biological specimen (10)
 Slide (12)
 Camera (18)
 pp; 39 DwgNo 1/15|

AB- <TF> TECHNOLOGY FOCUS - INSTRUMENTATION AND TESTING - Preferred
 Parameters: The zero attenuation grayscale is $G_n(0)$ and the attenuation
 coefficient $(\alpha_n(i, j))$ is $\alpha_n(i, j) = -\ln (G_n(i, j) / G_n(0))$,
 where n is index identifying filter with center wavelength (λ_{ndan});
 $G_n(i, j)$ is grayscale **value** for pixel (i, j) in image collected at
 λ_{ndan} ; $G_n(0)$ is grayscale **value** for zero attenuation in specimen
 using filter (n) ; and $(\alpha_n(i, j))$ is attenuation coefficient for
 pixel. The attenuation coefficient $\alpha_n(i, j)$ is $\alpha_n(i, j) = \epsilon_n \times C$,
 where ϵ_n is extinction coefficient for the chromogen; and C is
 chromogen concentration. The attenuation coefficients are represented
 as

$$\alpha_1(i, j) = \epsilon_{1,1} \times C_1(i, j) + \epsilon_{2,1} \times C_2(i, j) + \dots +$$

$\epsilon_{m,1} \times C_m(i,j);$
 $\alpha_2(i,j) = \epsilon_{1,2} \times C_1(i,j) + \epsilon_{2,2} \times C_2(i,j) + \dots + \epsilon_{m,2} \times C_m(i,j);$ and
 $\alpha_n(i,j) = \epsilon_{1,n} \times C_1(i,j) + \epsilon_{2,n} \times C_2(i,j) + \dots + \epsilon_{m,n} \times C_m(i,j)$

where (i,j) are the pixel **coordinates**, $\alpha_n(i,j)$ is the attenuation at wavelength n for pixels, $\epsilon_{m,n}$ is extinction coefficient for chromogen ' m ' at wavelength n , and $C_m(i,j)$ is chromogen concentration m for pixels.

The equations for concentration as a function of attenuation are:

$C_1(i,j) = k_{1,1} \times \alpha_1(i,j) + k_{1,2} \times \alpha_2(i,j) + \dots + k_{1,n} \times \alpha_n(i,j);$

$C_2(i,j) = k_{2,1} \times \alpha_1(i,j) + k_{2,2} \times \alpha_2(i,j) + \dots + k_{2,n} \times \alpha_n(i,j);$ and

$C_m(i,j) = k_{m,1} \times \alpha_1(i,j) + k_{m,2} \times \alpha_2(i,j) + \dots + k_{m,n} \times \alpha_n(i,j),$

where $k_{m,n}$ is coefficients from matrix inversions, and $C_m(i,j)$ is the concentration of chromogen m for pixels.

The new **image** α' (i,j) is **created** by

$\alpha'_1(i,j) = \alpha_1(i,j) - \epsilon_{2,1} \times C_2(i,j) - \epsilon_{3,1} \times C_3(i,j)$ and $G(i,j) = N(0) \times e^{-\alpha'_1(i,j)},$

where $G(i,j)$ is the gray level of pixel in new image, $N(0)$ is the gray level for the hypothetical clear area, and $\alpha'_1(i,j)$ is the computed attenuation after other chromogens removed.

The new **image** α' (i,j) is **created** by

$\alpha_1(i,j) = \epsilon_{1,1} \times C_1(i,j) + \epsilon_{2,1} \times C_2(i,j) + \epsilon_{3,1} \times C_3(i,j)$ and $G(i,j) = N(0) \times e^{-\alpha_1(i,j)},$

where $\alpha_1(i,j)$ is the attenuation for hypothetical chromogen.

The extinction coefficient is computed by

$\epsilon_{sec} = E(A_{sec}) \text{ divide } E(A_{ref}),$

where A_{sec} is the attenuation in secondary image, a random variable;

A_{ref} is the attenuation in the reference image, a random variable;

and

$E(X)$ is the expectation operator, returns the average of random variable X .

Using segmented mask the extinction coefficient can be calculated

as

$\epsilon_{f,m,n} = E(A_{sec}) \text{ divide } E(A_{ref}),$

where f is index for the field of view;

m is index for the chromogen; and

n is index for the secondary wavelength.

The correlation coefficient is computed by

$\rho(A_1, A_2) = \text{Cov}(A_1, A_2) \text{ divide square root of } \text{Var } A_1 \times \text{Var } A_2,$

where $\text{Cov}(A_1, A_2) = E(A_1 \times A_2) - E(A_1) \times E(A_2);$

$\text{Var}(A_1) = E(A_1^2) - (E(A_1))^2;$ and

$\text{Var}(A_2) = E(A_2^2) - (E(A_2))^2.$

Preferred Method: The contrast in the image of the biological specimen is separated by expressing the attenuation coefficient as the **sum** of the **products** of the extinction coefficient at each wavelength of interest times the concentration for each chromogen, and computing the concentration of each chromogen at the pixel location by series of matrix inversions. An attenuation window is set for mask **generation** by comparing the reference **image** to another. A correlation coefficient of the elements are computed corresponding to the segmented mask and the correlation coefficient is determined. An electronically controlled variable filter and a broadband incandescent light source provide light for each image at different center wavelength. A monographic camera (18) is provided for images acquisition.

DE- <TITLE TERMS> COLLECT; IMAGE; MULTIPLE; CHROMOGEN; COMPRISE; ILLUMINATE; FIELD; VIEW; NARROW; BAND; SECOND; BAND; ILLUMINATE; WAVELENGTH;

UNIQUE; WAVELENGTH|
DC- B04; D16; J04; S03|
IC- <MAIN> G01N-015/14; G06K-009/00|
MC- <CPI> B11-C08C; B12-K04; D05-H09; J04-B01A|
MC- <EPI> S03-E04E; S03-E04R; S03-E13D; S03-E14H|
FS- CPI; EPI||

18/4/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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IM- *Image available*
AA- 1999-237301/199920|
XR- <XRPX> N99-176573|
TI- **Vector** calculation circuit for compression encoding system of digital image signal - accumulates absolute **value** calculation result as partial **product** to increase difference between original picture and reference image signals|
PA- MATSUSHITA DENKI SANGYO KK (MATU)|
NC- 001|
NP- 001|
PN- JP 11065822 A 19990309 JP 97231261 A 19970827 199920 B|
AN- <LOCAL> JP 97231261 A 19970827|
AN- <PR> JP 97231261 A 19970827|
FD- JP 11065822 A G06F-007/00|
LA- JP 11065822(24)|
AB- <BASIC> JP 11065822 A

NOVELTY - The absolute **value** of difference between original picture image signal and reference image signal, is calculated by each calculator (111-119). The calculated difference is increased by accumulating the calculation result as a partial **product** of the increase in difference. The **sum** of square of difference is calculated by accumulating the increase of all differences using single calculator. DETAILED DESCRIPTION - A data distributor (105) allocates activity **vector** detection function for each calculator (111-119) which receive original picture image signal (122) and reference image signal (123) as input. Each calculator calculate the absolute **value sum** of the difference between original and reference **image** signals. During **estimation** mode selection, either the **object** reference **image** signal or vicinity reference image signal, is chosen beforehand.

USE - For compression encoding system of digital image signal.

ADVANTAGE - Reduces circuit scale required for image encoding, by materializing all **calculations** in **identical** circuit. DESCRIPTION OF DRAWING(S) - The figure shows structural block diagram of calculation circuit. (105) Data distributor; (111-119) Calculator; (122) Original picture image signal; (123) Reference image signal.

Dwg.1/13|

DE- <TITLE TERMS> **VECTOR** ; CALCULATE; CIRCUIT; COMPRESS; ENCODE; SYSTEM; DIGITAL; IMAGE; SIGNAL; ACCUMULATE; ABSOLUTE; **VALUE** ; CALCULATE; RESULT; **PRODUCT** ; INCREASE; DIFFER; ORIGINAL; PICTURE; REFERENCE; IMAGE; SIGNAL|
DC- T01; W02|
IC- <MAIN> G06F-007/00|
IC- <ADDITIONAL> H04N-007/32|
MC- <EPI> T01-E; T01-J10D; W02-F07C|
FS- EPI||

18/4/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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IM- *Image available*
AA- 1996-501296/199650|
XR- <XRPX> N96-422691|
TI- Tool wear automatic measuring method e.g. for cutting blade in cutting machine - involves detecting wear and tear of tool based on image of blade point of tool that is acquired by image pick-up **unit** |
PA- TOSHIBA MACHINE CO LTD (TOSI)|
NC- 001|
NP- 001|
PN- JP 8257876 A 19961008 JP 9566121 A 19950324 199650 B|
AN- <LOCAL> JP 9566121 A 19950324|
AN- <PR> JP 9566121 A 19950324|
FD- JP 8257876 A B23Q-017/00|
LA- JP 8257876(9)|
AB- <BASIC> JP 8257876 A

The method involves using an image pickup **unit** which obtains the full image of a tool whose wear and tear is to be **determined**. The **features** relating to the shape of the tool are **extracted** from the obtained tool **image**. The data relating to the tool shape, number of blade points and the arrangement of the blade parts are stored in a tool information database. A particular tool is distinguished by **comparing** the shape **feature** data that is extracted with the data stored in the tool information data base. The number of blade points and the information relating to arrangement of blade parts are acquired.

The blade part arrangement area in the whole tool image is specified based on the acquired blade part arrangement position information. The blade points are extracted from the specified blade part arrangement information area. The **coordinate** values of the blade points are obtained with respect to the **coordinate** system of the tool image data. The image of the blade point of the tool is obtained by applying a high **multiplication** factor to the image pick up **unit** based on the acquired **coordinates value** of the blade points. The wear and tear of the tool is determined based on the image of the blade point of the tool.

ADVANTAGE - Detects wear and tear of tool accurately. Improves precision. Realizes high speed operation. Realizes automatic operation.

Dwg.5/5|

DE- <TITLE TERMS> TOOL; WEAR; AUTOMATIC; MEASURE; METHOD; CUT; BLADE; CUT; MACHINE; DETECT; WEAR; TEAR; TOOL; BASED; IMAGE; BLADE; POINT; TOOL; ACQUIRE; IMAGE; PICK-UP; **UNIT** |
DE- <ADDITIONAL WORDS> CHANGER|
DC- P56; S02; S03; T04; X25|
IC- <MAIN> B23Q-017/00|
IC- <ADDITIONAL> B23Q-017/09; B23Q-017/24; G01B-011/00; G06T-001/00|
MC- <EPI> S02-A03B3; S03-E04; S03-F02B; T04-D07A; X25-A03|
FS- EPI; EngPI||

18/4/13 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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IM- *Image available*
AA- 1995-215360/199528|
XR- <XRPX> N95-168843|
TI- Image coding method using discrete cosine transforms - using point-wise

multiplication of discrete even cosine transfer of subsets of image matrix with DOCT of kernel if image data sets overlap|

PA- POLAROID CORP (INTP)|

AU- <INVENTORS> REISCH M L; WOBER M A|

NC- 020|

NP- 004|

PN- WO 9515531 A1 19950608 WO 94US13788 A 19941130 199528 B|

PN- EP 731946 A1 19960918 WO 94US13788 A 19941130 199642

<AN> EP 95904781 A 19941130

PN- US 5563718 A 19961008 US 93159733 A 19931130 199646

PN- JP 9506222 W 19970617 WO 94US13788 A 19941130 199734

<AN> JP 95515751 A 19941130|

AN- <LOCAL> WO 94US13788 A 19941130; WO 94US13788 A 19941130; EP 95904781 A 19941130; US 93159733 A 19931130; WO 94US13788 A 19941130; JP 95515751 A 19941130|

AN- <PR> US 93159733 A 19931130|

CT- 04Jnl.Ref; US 5168375; US 5311310|

FD- WO 9515531 A1

<DS> (National): CA JP KR

<DS> (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

FD- EP 731946 A1 Based on patent WO 9515531

<DS> (Regional): AT BE DE DK ES FR GB IE IT NL

FD- US 5563718 A

FD- JP 9506222 W Based on patent WO 9515531|

LA- WO 9515531(40); EP 731946(E<PG> 40); US 5563718(20); JP 9506222(41)|

DS- <NATIONAL> CA JP KR|

DS- <REGIONAL> AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE|

AB- <BASIC> WO 9515531 A

The image coding method involves replacing the convolution of a **spatial** domain kernel with an image data matrix, by a point-wise **multiplication** of the DECT of subsets of the image-data matrix, with the DOCT of the kernel if the image-data subsets overlap one another, and determining the amount of overlap necessary to suppress the blocking effect by the characteristic of the particular frequency matrix used. The frequency domain coefficients are derived using discrete even cosine transfer (DECT) of the **spatial** -domain image data. Prior to transformation, the image data is reformatted by the mapping of each image datum into an array of **image** -data matrices. The mapping operation **produces** terms **common** to more than one matrix and **determines** the "overlapping" of the image data.

The processing of the frequency coefficients in the frequency domain is accomplished using a filter matrix or by a filter matrix which has been derived from a **spatial** -domain kernel matrix. The characteristics of the frequency matrix provide criteria for determining the amount of overlap to be used to avoid blocking artifacts. Processed coefficients in JPEG format may be transmitted or stored using standard JPEG hardware after overlapping. The coefficients undergo the inverse sequence of operations by which the original image-data matrix was processed to yield the original data.

USE/ADVANTAGE - Using discrete cosine transforms to suppress and/or reduce blocking artifacts at relatively high ratios of image data compression using JPEG file format, in electronic conversion of photographic images, reproduction of graphical information in printing and coding and decoding of digital image data in electronic communications. Provides high rates of data compression without incurring blocking artifacts.

Dwg.2/11|

AB- <US> US 5563718 A

A method of processing an image signal, including filtering by

means of a **spatial** -domain kernel, comprising the steps of:

- acquiring the image signal, said image signal formatted as a series of electrical signals corresponding to image element characteristics;
- transforming said series of electrical signals into a set of image data, said set of image data formatted as an Hmultiplied by V matrix, having terms denoted by $s_{j,i}$, where $0 \leq j \leq H-1$ and $0 \leq i \leq V-1$;
- generating a Pmultiplied by Q array of Nmultiplied by N image-data submatrices from said set of image data, where $N \leq H$, $N \leq V$, $P = H/N$ and $Q = V/N$, each said image-data submatrix having terms denoted by $x_{nu,\mu}$, where $0 \leq \mu \leq N-1$, wherein each said image datum is mapped into at least one of said image-data submatrices, and further wherein each said image-data submatrix has at least one row or one column identical to a row or column of an adjacent image-data submatrix;
- performing a DCT on each said image-data submatrix to obtain a Pmultiplied by Q array of Nmultiplied by N frequency-domain submatrices, each said frequency domain submatrix having terms denoted by $X_{nu,\mu}$;
- acquiring the **spatial** -domain kernel, said kernel formatted as a symmetrical fmultiplied by f matrix, where $f \leq N$;
- constructing an Nmultiplied by N kernel matrix from said **spatial** -domain kernel, with terms denoted by $k_{nu,\mu}$, wherein each kernel matrix term is either assigned a **value** equal to a term in said **spatial** -domain kernel or else is set to zero;
- performing a DOCT on said kernel matrix to obtain an Nmultiplied by N frequency-domain mask matrix, having terms denoted by $F_{nu,\mu}$;
- filtering said frequency-domain submatrix by performing a pointwise **multiplication** of each said frequency-domain submatrix with said frequency-domain mask matrix to yield a Pmultiplied by Q array of Nmultiplied by N filtered frequency-domain matrices, having terms denoted by $X'_{nu,\mu}$ wherein $X'_{nu,\mu} = F_{nu,\mu} \times X_{nu,\mu}$;
- unoverlapping said filtered frequency-domain matrices to obtain a Pmultiplied by Q array of N'multiplied by N' filtered frequency-coefficient matrices; and
- performing a quantization operation on the terms in said filtered frequency-coefficient matrices to obtain a Pmultiplied by Q array of N'multiplied by N' quantized filtered frequency-coefficient matrices; where $N' \leq N$, said quantized filtered frequency-coefficient matrices comprising a compressed set of filtered image data which is :functionally equivalent to the DCT of the convolution of said set of image data with said **spatial** -domain kernel, wherein said compressed set of filtered image data can be stored using a digital signal processor or similar electronic circuitry, or encoded and transmitted by electronic means, whereby said compressed set of filtered image data can be subsequently electronically reprocessed to regenerate a processed image signal, corresponding to the original image signal, without incurring blocking artifacts.

(Dwg.2/11)

DE- <TITLE TERMS> IMAGE; **CODE** ; METHOD; DISCRETE; COSINE; TRANSFORM; POINT ; WISE; **MULTIPLICATION** ; DISCRETE; EVEN; COSINE; TRANSFER; SUBSET; IMAGE; MATRIX; KERNEL; IMAGE; DATA; SET; OVERLAP|

DC- T01; W02; W04|

IC- <MAIN> G06F-017/14; H04N-001/415; H04N-007/30|

IC- <ADDITIONAL> H03M-007/30; H04N-001/41|

MC- <EPI> T01-D02; T01-J04B1; T01-J10B; W02-F07B; W02-J03B1; W04-P01A3|

FS- EPI||

DIALOG(R)File 350:Derwent WPIX
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IM- *Image available*

AA- 1995-124831/199517|

XR- <XRPX> N95-098770|

TI- Speech coding apparatus for computerised speech recognition system -
labelling an acoustic **feature vector** with the **identification** of
the best matched prototype **vector** |

PA- INT BUSINESS MACHINES CORP (IBM C)|

AU- <INVENTORS> EPSTEIN M E; GOPALAKRISHNAN P S; NAHAMOO D; PICHENY M A;
SEDIVY J; GOPALAKISHNAN P S|

NC- 006|

NP- 006|

PN- EP 645755 A1 19950329 EP 94114138 A 19940908 199517 B|

PN- US 5522011 A 19960528 US 93127392 A 19930927 199627

PN- SG 43733 A1 19971114 SG 96324 A 19940908 199803

PN- EP 645755 B1 20000329 EP 94114138 A 19940908 200020

PN- DE 69423692 E 20000504 DE 623692 A 19940908 200029

<AN> EP 94114138 A 19940908

PN- JP 3110948 B2 20001120 JP 94195348 A 19940819 200101|

AN- <LOCAL> EP 94114138 A 19940908; US 93127392 A 19930927; SG 96324 A
19940908; EP 94114138 A 19940908; DE 623692 A 19940908; EP 94114138 A
19940908; JP 94195348 A 19940819|

AN- <PR> US 93127392 A 19930927|

CT- EP 535380; EP 538626; EP 545083|

FD- EP 645755 A1 G10L-005/06

<DS> (Regional): DE FR GB

FD- EP 645755 B1 G10L-019/00

<DS> (Regional): DE FR GB

FD- DE 69423692 E G10L-019/00 Based on patent EP 645755

FD- JP 3110948 B2 G10L-015/02 Previous Publ. patent JP 7110695|

LA- EP 645755(E<PG> 24); US 5522011(17); EP 645755(E); JP 3110948(20)|

DS- <REGIONAL> DE; FR; GB|

AB- <BASIC> EP 645755 A

The apparatus measures the **value** of feature(s) of an utterance during successive intervals to produce feature **vector** signals. Prototype **vector** signals at least two of which have different **identification** values, and classification rules for mapping **feature vector** signals from a set to at least two different classes of prototype **vector** signals, are stored. A feature **vector** signal is mapped by these rules to a first class of prototype signals, and the closeness of the **feature** signal's **feature value** compared to parameter values of the prototype signals. The identification **value** of the prototype signal having the best match **score** is **output** as a **coded** utterance **representation** signal.

ADVANTAGE - The apparatus consumes fewer processing resources than prior art types.

Dwg.1/6|

AB- <US> US 5522011 A

A speech coding apparatus comprising:

means for measuring the **value** of at least one feature of an utterance during each of a series of successive time intervals to produce a series of feature **vector** signals representing the feature values;

means for storing a plurality of prototype **vector** signals, each prototype **vector** signal having at least one parameter **value** and having an identification **value**, at least two prototype **vector** signals having different identification values;

classification rules means for storing classification rules mapping

each feature **vector** signal from a set of all possible feature **vector** signals to exactly one of at least two different classes of prototype **vector** signals, each class containing a plurality of prototype **vector** signals and each class of prototype **vector** signals is at least partially different from other classes of prototype **vector** signals, wherein each class of prototype **vector** signals contains less than 1/N times the **total** number of prototype **vector** signals in all classes, where 5at mostNat most150;

classifier means for mapping, by the classification rules, a first feature **vector** signal to a first class of prototype **vector** signals;

means for **comparing** the closeness of the **feature value** of the first feature **vector** signal to the parameter values of only the prototype **vector** signals in the first class of prototype **vector** signals to obtain prototype **match scores** for the first **feature vector** signal and each prototype **vector** signal in the first class; and

means for outputting at least the identification **value** of at least the prototype **vector** signal having the best prototype match **score** as a **coded** utterance representation signal of the first feature **vector** signal.

Dwg.1/6|

DE- <TITLE TERMS> SPEECH; **CODE** ; APPARATUS; COMPUTER; SPEECH; RECOGNISE; SYSTEM; LABEL; ACOUSTIC; FEATURE; **VECTOR** ; IDENTIFY; MATCH; PROTOTYPE; **VECTOR** |

DC- P86; T01; W04|

IC- <MAIN> G10L-005/06; G10L-015/02; G10L-019/00|

IC- <ADDITIONAL> G10L-003/00; G10L-005/00; G10L-007/08; G10L-009/06; G10L-009/18; G10L-019/02; G10L-101/10; G10L-101-10; H03M-007/30; H04B-014/04|

MC- <EPI> T01-C08A; W04-V01; W04-V04A; W04-V05G3|

FS- EPI; EngPI||

18/4/15 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 Thomson Derwent. All rts. reserv.

IM- *Image available*

AA- 1992-398322/199248|

XR- <XRPX> N92-303898|

TI- System for quantifying macrophage phagocytosis by computer image analysis - uses sequential acquisition of bright field or phase contrast and microscopic **images** , **extracts features** and makes statistical **analysis** |

PA- US SEC OF NAVY (USNA)|

AU- <INVENTORS> HOOK G R; ODEYALE C O|

NC- 001|

NP- 001|

PN- US 5162990 A 19921110 US 90540666 A 19900615 199248 B|

AN- <LOCAL> US 90540666 A 19900615|

AN- <PR> US 90540666 A 19900615|

FD- US 5162990 A G06F-015/00|

LA- US 5162990(13)|

AB- <BASIC> US 5162990 A

The **algorithm** for rapidly quantifying phagocytic functions uses computer image analysis (CIA) of video light microscopic images. The **algorithm** involves sequential acquisition of bright field or phase contrast and epi-fluorescence video microscopic images of respective field, **addition** of the **images** , decision making, **object**

referencing, morphological **feature extraction** , arithmetic operations, and statistical **analysis** .

A computer **adds** first binary image and inverted binary image to form a composite image and determines the number of engulfed **objects** per target cell using the formula $GV=(O*M)+(255*C)/AR$ wherein GV is the grey **value** , AR is the **total** are of both cell and microspheres, M is the **weighted** average of the microsphere area and C is the cell area.

USE/ADVANTAGE - Faster phagocytic functions analysis than manual microscopic examination and more details quantitative morphological data than flow cytometry.

Dwg.2/8|

DE- <TITLE TERMS> SYSTEM; QUANTIFICATION; MACROPHAGE; PHAGOCYTOSIS;
COMPUTER; IMAGE; ANALYSE; SEQUENCE; ACQUIRE; BRIGHT; FIELD; PHASE;
CONTRAST; MICROSCOPIC; IMAGE; EXTRACT; FEATURE; STATISTICAL; ANALYSE|
DC- S03; S05; T01; T04|
IC- <ADDITIONAL> G06F-015/42|
MC- <EPI> S03-E06B; S03-E14H9; S05-C09; T01-J06A; T01-J10B2; T01-J10G;
T04-D07C; T04-D07X|
FS- EPI||

18/4/16 (Item 1 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2004 JPO & JAPIO. All rts. reserv.|
TI- METHOD AND DEVICE FOR INSPECTING **PRODUCT**
PN- 2000-348176 -JP 2000348176 A-
PD- December 15, 2000 (20001215)
AU- HASEGAWA TAIRA
PA- SEKISUI CHEM CO LTD
AN- 11-161272 -JP 99161272-
AN- 11-161272 -JP 99161272-
AD- June 08, 1999 (19990608)
G06T-007/00; G01N-021/88
AB- PROBLEM TO BE SOLVED: To accurately discriminate whether a **product** is good or not by emphasizing only a narrow **linear** part, which is a crack, to accurately detect the crack part regardless of the existence of a part where brightness is changed like a slope part. SOLUTION: The surface of a **product** is irradiated with light from above by an illumination 4, and its image is picked up from above the **product** 11 by a line sensor 3, and the output signal from this line sensor 3 is subjected to A/D conversion by an A/D conversion part 6 in the **unit** of pixels which is a preliminarily set resolution and is inputted to a **picture** processing part 7. This part 7 **extracts** plural pixels in the longitudinal direction and those in the lateral direction with an arbitrary pixel as the center and uses the **value** of each pixel after A/D conversion to perform neighbor processing based on plural extracted pixels, thereby emphasizing a crack part to extract the feature quantity of this part. The extracted **feature** quantity of the crack part is **compared** with a preliminarily set reference **value** to discriminate whether the **product** is good or not. COPYRIGHT: (C)2000,JPO

18/4/17 (Item 2 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2004 JPO & JAPIO. All rts. reserv.|
TI- METHOD AND INSTRUMENT FOR MEASURING POSITION OF **OBJECT** AND RECORDING MEDIUM RECORDING PROGRAM THEREOF
PN- 2000-283719 -JP 2000283719 A-
PD- October 13, 2000 (20001013)

AU- HAMAGUCHI YOSHITAKA
PA- OKI ELECTRIC IND CO LTD
AN- 11-086916 -JP 9986916-
AN- 11-086916 -JP 9986916-
AD- March 29, 1999 (19990329)
G01B-011/00

AB- PROBLEM TO BE SOLVED: To obtain a position measuring instrument, etc., which can measure the distance and direction to an **object** to be measured even when the number of actually measured values is few.

SOLUTION: A position measuring instrument is provided with a camera section 100 which takes one or a plurality of pictures; a feature point tracking section 200 which detects the **coordinate** values of one or a plurality of feature points contained in the photographed **pictures**; and a **coordinate** matrix **generating** section 300 which normalizes the **coordinate** values with the focal distance, calculates the differences between the normalized **coordinate** values and the mean values of the normalized **coordinate** values in the **pictures** **calculated** at every **feature** point, and **generates** a matrix using the calculated difference values as elements. The measuring instrument is also provided with a matrix resolving section 400 which decides certain two matrixes which are the closet to the matrix generated by means of the generating section 300; a normalizing section 500 which multiplies one of the two matrixes by a certain **value**, **adds** a fixed **value** to the **product**, and divides the other matrix by a certain **value** so that the calculated **value** may correspond to actually measured values; and a **coordinate** calculating section 600 which **calculates** the distance and direction to each **feature** point based on the matrixes. COPYRIGHT: (C)2000,JPO

18/4/18 (Item 3 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2004 JPO & JAPIO. All rts. reserv.|
TI- CHARACTER STRING EXTRACTION METHOD AND DEVICE AND CHARACTER STRING
RECOGNITION PROCESSING DEVICE AND SYSTEM USING THE CHARACTER STRING
EXTRACTION DEVICE
PN- 08-293003 -JP 8293003 A-
PD- November 05, 1996 (19961105)
AU- YAKURA TOKUMASA; FUJII TORU; KAWADE MASAHIITO; YOTSUI MOTOKI
PA- OMRON CORP [000294] (A Japanese Company or Corporation), JP (Japan)
AN- 07-124474 -JP 95124474-
AN- 07-124474 -JP 95124474-
AD- April 24, 1995 (19950424)
IC- -6- G06K-009/62; G06K-009/34; G06K-009/68
CL- 45.3 (INFORMATION PROCESSING -- Input Output **Units**)
KW- R107 (INFORMATION PROCESSING -- OCR & OMR Optical Readers)
AB- PURPOSE: To precisely extract only the character string that should be recognized by dividing plural characters having their continuity and included in an image into groups for every character string and then **comparing** the **feature value** of every group with a model of **feature value** of the character string that is previously set.

CONSTITUTION: A character extraction part 3 **extracts** all characters included in a given **image** and also **extracts** the data on the positions, sizes, etc., of characters. Then the part 3 **totalizes** the **feature value** of characters into a **vector** and outputs it to a sorting processing part 4. The part 4 checks of the continuity of characters and divides the characters into groups for each of continuous characters. Then the part 4 **calculates** the **feature value** of every group and generates the **feature value** data in the

form of a **vector** to output these **value** and data to a comparison processing part 5. The part 5 **compares** the **feature value** model data T given from a model image data setting part 1 with the feature **value** data on each group, decides a group having the feature **value** data most approximate to a model **image** as a character string to be **extracted**, and outputs the feature **value** data on the decided group to an output processing part 6.

18/4/19 (Item 4 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2004 JPO & JAPIO. All rts. reserv.|
TI- **IMAGE FEATURE VALUE EXTRACTING DEVICE**
PN- 06-333046 -JP 6333046 A-
PD- December 02, 1994 (19941202)
AU- YAMAGUCHI TAKAHISA
PA- NIPPON AVIONICS CO LTD [327329] (A Japanese Company or Corporation), JP
(Japan)
AN- 05-139425 -JP 93139425-
AN- 05-139425 -JP 93139425-
AD- May 18, 1993 (19930518)
IC- -5- G06F-015/70; G06F-015/62
CL- 45.4 (INFORMATION PROCESSING -- Computer Applications)
AB- PURPOSE: To extract a fixed feature **value** even through the information on the image data to be processed is unknown by calculating the accumulation **value** of the DCT coefficients for all **image** data and then **extracting** the feature **value** of a photographing subject based on the calculated accumulation **value**.

CONSTITUTION: A processing data **producing** part 3 stores in sequence the **image** data given from an A/D converter 2 in the scanning order and also **outputs** the **unit image** data consisting of (8X8) picture elements which are suitable to the DCT processing. A DCT processor 4 produces a DCT coefficient that consists of a single DCT coefficient showing the mean **value** and 63 AC coefficient showing the frequency components. Each AC coefficient shows the **value** corresponding to the changing state of the image data and therefore an AC **totalizer** 5 calculates the accumulation **value** of AC coefficients of a single screen. A **feature value computing** element 6 detects the largest accumulation **value** based on the difference of the accumulation **value** of AC coefficients and extracts the **coordinates** including the largest accumulation **value** as the position of a photographing subject (target).

18/4/20 (Item 5 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2004 JPO & JAPIO. All rts. reserv.|
TI- PATTERN RECOGNITION SYSTEM
PN- 02-125390 -JP 2125390 A-
PD- May 14, 1990 (19900514)
AU- KIMURA MASAYUKI
PA- FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
AN- 63-205687 -JP 88205687-
AN- 63-205687 -JP 88205687-
AD- August 20, 1988 (19880820)
IC- -5- G06K-009/46; G06F-015/70; G06K-009/62
CL- 45.3 (INFORMATION PROCESSING -- Input Output **Units**); 45.4
(INFORMATION PROCESSING -- Computer Applications)
KW- R107 (INFORMATION PROCESSING -- OCR & OMR Optical Readers)

SO- Section: P, Section No. 1084, Vol. 14, No. 349, Pg. 121, July 27, 1990
(19900727)

AB- PURPOSE: To extract a feature quantity where the structure of a pattern is reflected well without the need to recognize a structure segment by extracting partial feature **vectors** of all obtained areas as pattern-directional line element feature quantities.

CONSTITUTION: A partial feature **vector** arithmetic means 103 **weights** directional components obtained from a directional component **extracting** means 101 for respective **picture** elements in each of areas divided by an area dividing means 102 so that the **weight** decreases from the center part of the area to the periphery, and then **totalizes** them by directions to **compute** partial **feature vectors** 105 including the **totalization** results by the directions as elements. Then the partial feature **vectors** 105 of all the obtained areas are extracted as pattern directional line element feature quantities 106 finally. Consequently, the feature quantity where the structure of the pattern is reflected well is extracted without the need to recognize the structure segment and the recognition performance is improved.

18/4/21 (Item 6 from file: 347)

FN- DIALOG(R)File 347:JAPIO|

CZ- (c) 2004 JPO & JAPIO. All rts. reserv. |

TI- DETECTING DEVICE FOR ANGLE DIFFERENCE

PN- 61-070670 -JP 61070670 A-

PD- April 11, 1986 (19860411)

AU- TORIO.TAKASHI; OZAKI NOBORU

PA- FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)

AN- 59-193011 -JP 84193011-

AN- 59-193011 -JP 84193011-

AD- September 14, 1984 (19840914)

IC- -4- G06K-009/00

CL- 45.3 (INFORMATION PROCESSING -- Input Output **Units**)

SO- Section: P, Section No. 488, Vol. 10, No. 241, Pg. 46, August 20, 1986
(19860820)

AB- PURPOSE: To detect an angle difference at a high speed with high precision by performing the Fourier transform of **feature** parts of both images, **calculating** the phase difference between the **feature** parts of both images and a **weight** coefficient, calculating an effective phase difference for each degree, and weighing them properly and calculating the means **value** .

CONSTITUTION: Features of both **images** are **extracted** by feature **extraction** parts 1 and 2 and Fourier coefficient extraction parts 8 and 9 calculate Fourier coefficients. A phase difference calculation part 10 calculates the phase difference for every degree of the Fourier coefficients and a **weight** coefficient calculation part 11 calculates the absolute **value** of each degree and the square of the degree. A **linear** approximation is recorded in an angle difference memory 13 and an effective phase difference calculation part 14 calculates the effective phase difference of degree (n+1) from (n) stages of angle differences and the calculated phase difference of degree (n+1); and the **total** of **weight** coefficients of degrees 1-(n) is added as **weight** and the **weight** coefficient of degree (n+1) is added to the effective phase difference of degree (n+1) and a sequential angle difference calculation part 15 calculates (n+1) stages of angle differences as the **weighted** mean of the both.

?

? show files;ds

File 2:INSPEC 1969-2004/Nov W3
(c) 2004 Institution of Electrical Engineers
File 35:Dissertation Abs Online 1861-2004/Nov
(c) 2004 ProQuest Info&Learning
File 65:Inside Conferences 1993-2004/Nov W4
(c) 2004 BLDSC all rts. reserv.
File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Oct
(c) 2004 The HW Wilson Co.
File 233:Internet & Personal Comp. Abs. 1981-2003/Sep
(c) 2003 EBSCO Pub.
File 256:TecInfoSource 82-2004/Nov
(c) 2004 Info.Sources Inc
File 474:New York Times Abs 1969-2004/Dec 03
(c) 2004 The New York Times
File 475:Wall Street Journal Abs 1973-2004/Dec 03
(c) 2004 The New York Times
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
(c) 2002 The Gale Group

Set	Items	Description
S1	71	AU='CHARIKAR, M.':AU='CHARIKAR, M. S.'
S2	3	E7-E8
S3	4	S1 AND OBJECT? ?
S4	3	RD (unique items)
S5	34	RD S1 (unique items)
S6	19	S5 NOT PY>2001
S7	16	S6 NOT (S2:S4)

? t2/7/all

2/7/1 (Item 1 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01812393 ORDER NO: AADAA-I3000018

Algorithms for clustering problems

Author: Charikar, Moses Samson

Degree: Ph.D.

Year: 2001

Corporate Source/Institution: Stanford University (0212)

Adviser: Rajeev Motwani

Source: VOLUME 62/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 328. 234 PAGES

ISBN: 0-493-08551-3

Clustering problems arise in various contexts. Roughly speaking, clustering refers to partitioning a set of objects into groups of similar objects. The objects (e.g. documents or images) are usually represented as points in some space with a distance measure and the objective is to obtain clusters of points that are close to each other. Problems of this flavor also occur in discrete location theory, where the goal is to locate a set of facilities (e.g. factories or warehouses) so as to serve a given set of clients. In this thesis, we consider several algorithmic aspects of clustering problems, viewed as optimization questions.

The quality of a clustering is typically measured by an objective function and the goal of an algorithm is to minimize this. For most natural objective functions, the corresponding optimization problem turns out to be NP-hard. In the face of this fundamental intractability, researchers have shifted their focus from exact solutions to obtaining approximate solutions that are guaranteed to be close to the optimal.

The first part of the thesis focuses on the approximability of several natural clustering objectives. We describe approximation algorithms for classical clustering and location problems such as *k*-median and facility location. We use both linear programming based approaches as well as purely combinatorial approaches such as local search to achieve the currently best known approximation factors for these problems. Further, the ideas behind these algorithms extend to other problems such as minsum clustering.

The second part of the thesis examines other algorithmic issues that arise in clustering. We study clustering problems in the presence of outliers which must be identified and excluded prior to clustering. We also formulate problems and describe results related to the incremental maintenance of clusters in a dynamic point set. Such problems arise when the data set is frequently updated and re-clustering is prohibitively expensive. Finally, we look at algorithmic techniques to deal with clustering large data sets, motivated by a real life application—that of clustering near duplicate documents in the AltaVista index.

2/7/2 (Item 1 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

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2733796 H.W. WILSON RECORD NUMBER: BAST04124990

Resource Optimization in QoS Multicast Routing of Real-Time Multimedia

Charikar, Moses ; Naor, Joseph (Seffi); Schieber, Baruch

IEEE/ACM Transactions on Networking v. 12 no2 (Apr. 2004) p. 340-8

DOCUMENT TYPE: Feature Article ISSN: 1063-6692

ABSTRACT: Multicasting in a heterogeneous environment is modeled as a network design problem, with applications requiring different levels of quality of service (QoS) and connections having limited performance. The goal is to achieve a low-cost multicast tree that can provide the QoS level requested by the receivers. Assuming that the QoS level required on a link is the maximum among the QoS levels of the receivers connected to the source through the link, the cost of a link is defined to be a function of the QoS level that it provides. However, the cost is independent of the level of use of the link.

2/7/3 (Item 2 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs
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2718350 H.W. WILSON RECORD NUMBER: BAST02130103

Algorithms for Capacitated Vehicle Routing

Charikar, Moses ; Khuller, Samir; Raghavachari, Balaji

SIAM Journal on Computing v. 31 no3 (Oct. 2001/Feb. 2002) p. 665-82

DOCUMENT TYPE: Feature Article ISSN: 0097-5397

ABSTRACT: The problem of transporting n identical objects (pegs) efficiently to n target locations (slots) within a vehicle that can carry a maximum of k pegs was investigated. A 5-approximation algorithm was developed in order to minimize the total distance traveled by the vehicle. Two types of transportation were found to be possible: Preemptive transport involved pegs being dropped at intermediate locations and subsequently picked up along the route for delivery while nonpreemptive transport involved pegs being transported directly to their target slots. For preemptive transport, the freedom to drop pegs was exploited to determine an optimally short delivery route. A nonpreemptive tour that was within a factor of 5 of the preemptive tour was also developed. It was determined that the ratio of distances traveled by an optimized nonpreemptive tour as opposed to a preemptive tour was bounded by 4.

?

? t4/7/all

4/7/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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7091197 INSPEC Abstract Number: C2001-12-1290H-039

Title: Algorithms for capacitated vehicle routing

Author(s): Charikar, M. ; Khuller, S.; Raghavachari, B.

Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA

URL: <http://www.siam.org/journals/sicomp/31-3/39205.html>

Journal: SIAM Journal on Computing vol.31, no.3 p.665-82

Publication URL: <http://www.siam.org/journals/sicomp/sicomp.htm>

Publisher: SIAM,

Publication Date: 2001 Country of Publication: USA

CODEN: SMJCAT ISSN: 0097-5397

SICI: 0097-5397(2001)31:3L.665:ACVR;1-L

Material Identity Number: S171-2001-004

U.S. Copyright Clearance Center Code: 0097-5397/2001/\$2.00+0.15

Document Number: S0097-5397(01)39205-6

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Given n identical **objects** (pegs), placed at arbitrary initial locations, we consider the problem of transporting them efficiently to n target locations (slots) with a vehicle that can carry at most k pegs at a time. This problem is referred to as k -delivery TSP, and it is a generalization of the traveling salesman problem. We give a 5-approximation algorithm for the problem of minimizing the total distance traveled by the vehicle. There are three kinds of transportations possible—one that could drop pegs at intermediate locations and pick them up later in the route for delivery (preemptive) and one that transports pegs to their targets directly (nonpreemptive). In the former case, by exploiting the freedom to drop, one may be able to find a shorter delivery route. We construct a nonpreemptive tour that is within a factor 5 of the optimal preemptive tour. In addition we show that the ratio of the distances traveled by an optimal nonpreemptive tour versus a preemptive tour is bounded by 4. (20 Refs)

Subfile: C

Copyright 2001, IEE

4/7/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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6894024 INSPEC Abstract Number: C2001-05-1160-064

Title: Combinatorial feature selection problems

Author(s): Charikar, M. ; Guruswami, V.; Kumar, R.; Rajagopalan, S.; Sahai, A.

Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA

Conference Title: Proceedings 41st Annual Symposium on Foundations of Computer Science p.631-40

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA xiv+687 pp.

ISBN: 0 7695 0850 2 Material Identity Number: XX-2000-02812

U.S. Copyright Clearance Center Code: 0 7695 0850 2/2000/\$10.00

Conference Title: Proceedings 41st Annual Symposium on Foundations of Computer Science

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Math. Found. Comput

Conference Date: 12-14 Nov. 2000 Conference Location: Redondo Beach,

CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Motivated by frequently recurring themes in information retrieval and related disciplines, we define a genre of problems called combinatorial feature selection problems. Given a set S of multidimensional **objects**, the goal is to select a subset K of relevant dimensions (or features) such that some desired property P_i holds for the set S restricted to K . Depending on P_i , the goal could be to either maximize or minimize the size of the subset K . Several well-studied feature selection problems can be cast in this form. We study the problems in this class derived from several natural and interesting properties P_i , including variants of the classical p -center problem as well as problems akin to determining the VC-dimension of a set system. Our main contribution is a theoretical framework for studying combinatorial feature selection, providing (in most cases essentially tight) approximation algorithms and hardness results for several instances of these problems. (30 Refs)

Subfile: C

Copyright 2001, IEE

4/7/3 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

6128812 INSPEC Abstract Number: C1999-02-4260-038

Title: The finite capacity dial-a-ride problem

Author(s): Charikar, M. ; Raghavachari, B.

Author Affiliation: Stanford Univ., CA, USA

Conference Title: Proceedings 39th Annual Symposium on Foundations of Computer Science (Cat. No.98CB36280) p.458-67

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1998 Country of Publication: USA xiv+745 pp.

ISBN: 0 8186 9172 7 Material Identity Number: XX-1998-03194

U.S. Copyright Clearance Center Code: 0 8186 9172 7/98/\$10.00

Conference Title: Proceedings of 39th Annual Symposium on Foundations of Computer Science

Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Math. Found. Comput

Conference Date: 8-11 Nov. 1998 Conference Location: Palo Alto, CA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: We give the first non-trivial approximation algorithm for the Capacitated Dial-a-Ride problem: given a collection of **objects** located at points in a metric space, a specified destination point for each **object**, and a vehicle with a capacity of at most k **objects**, the goal is to compute a shortest tour for the vehicle in which all **objects** can be delivered to their destinations while ensuring that the vehicle carries at most k **objects** at any point in time. The problem is known under several names, including the Stacker Crane problem and the Dial-a-Ride problem. No theoretical approximation guarantees were known for this problem other than for the cases $k=1$, infinity and the trivial $O(k)$ approximation for general capacity k . We give an algorithm with approximation ratio $O(\sqrt{k})$ for special instances on a class of tree metrics called height-balanced trees. Using Bartal's recent results on the probabilistic approximation of metric spaces by tree metrics, we obtain an approximation ratio of $O(\sqrt{k} \log n \log \log n)$ for arbitrary n point metric spaces. When the points lie on a line (line metric), we provide a 2-approximation algorithm. We also consider the Dial-a-Ride problem in another framework:

when the vehicle is allowed to leave **objects** at intermediate locations and pick them up at a later time and deliver them. For this model, we design an approximation algorithm whose performance ratio is $O(1)$ for tree metrics and $O(\log n \log \log n)$ for arbitrary metrics. We also study the ratio between the values of the optimal solutions for the two versions of the problem. We show that unlike in k -delivery TSP in which all the **objects** are identical, this ratio is not bounded by a constant for the Dial-a-Ride problem, and it could be as large as $R(k/\sup 2/3/)$. (33 Refs)

Subfile: C

Copyright 1999, IEE

?

? t7/7/all

7/7/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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7158929 INSPEC Abstract Number: C2002-02-4240-029

Title: Delayed information and action in on-line algorithms

Author(s): Albers, S.; Charikar, M. ; Mitzenmacher, M.

Author Affiliation: Inst. fur Informatik, Albert-Ludwigs-Univ., Freiburg, Germany

Journal: Information and Computation vol.170, no.2 p.135-52

Publisher: Academic Press,

Publication Date: 1 Nov. 2001 Country of Publication: USA

CODEN: INFCEC ISSN: 0890-5401

SICI: 0890-5401(20011101)170:2L.135:DIAL;1-U

Material Identity Number: K729-2001-016

U.S. Copyright Clearance Center Code: 0890-5401/01/\$35.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: Most on-line analysis assumes that, at each time step, all relevant information up to that time step is available and a decision has an immediate effect. In many on-line problems, however, the time when relevant information is available and the time a decision has an effect may be decoupled. For example, when making an investment, one might not have completely up-to-date information on market prices. Similarly, a buy or sell order might only be executed some time in the future. We introduce and explore natural delayed models for several well-known on-line problems. Our analyses demonstrate the importance of considering timeliness in determining the competitive ratio of an on-line algorithm. For many problems, we demonstrate that there exist algorithms with small competitive ratios even when large delays affect the timeliness of information and the effect of decisions. (37 Refs)

Subfile: C

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7/7/2 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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7098116 INSPEC Abstract Number: C2002-01-6120-009

Title: On page migration and other relaxed task systems

Author(s): Bartal, Y.; Charikar, M. ; Indyk, P.

Author Affiliation: Int. Comput. Sci. Inst., Berkeley, CA, USA

Journal: Theoretical Computer Science vol.268, no.1 p.43-66

Publisher: Elsevier,

Publication Date: 6 Oct. 2001 Country of Publication: Netherlands

CODEN: TCSCDI ISSN: 0304-3975

SICI: 0304-3975(20011006)268:1L.43:PMOR;1-R

Material Identity Number: T168-2001-022

U.S. Copyright Clearance Center Code: 0304-3975/01/\$20.00

Document Number: S0304-3975(00)00259-0

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: This paper deals with the page migration (or file migration) problem as part of a large class of online problems. The page migration problem deals with the management of pages residing in a network of processors. In the classical problem there is only one copy of each page which is accessed by different processors over time. The page is allowed to be migrated between processors. However, a migration incurs higher

communication cost than an access. The problem is that of deciding when and where to migrate the page in order to lower access costs. A more general setting is the k-page migration problem where one wishes to maintain k copies of the page. The page migration problems are concerned with a dilemma common to many online problems: determining when it is beneficial to make configuration changes. We deal with the relaxed task systems model which captures a large class of problems of this type, that can be described as the generalization of some original task system problem. Given a c-competitive algorithm for a task system we show how to obtain a deterministic $O(c/\sup 2/)$ and randomized $O(c)$ competitive algorithms for the corresponding relaxed task system. The result implies deterministic algorithms for k-page migration by using k-server algorithms, and for network leasing by using the generalized Steiner tree algorithms, as well as providing solutions for natural generalizations of other problems. We further study some special cases of the k-page migration problem and get optimal deterministic algorithms. For the classical page migration problem we present a deterministic algorithm that achieves a competitive ratio of ~ 4.086 , improving upon the previously best competitive ratio of 7. (29 Refs)

Subfile: C

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7/7/3 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

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6924045 INSPEC Abstract Number: B2001-06-0250-053, C2001-06-1160-065

Title: Greedy approximation algorithms for finding dense components in a graph

Author(s): Charikar, M.

Author Affiliation: Stanford Univ., CA, USA

Conference Title: Approximation Algorithms for Combinatorial Optimization. Third International Workshop, APPROX 2000. Proceedings (Lecture Notes in Computer Science Vol.1913) p.84-95

Editor(s): Jansen, K.; Khuller, S.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 2000 Country of Publication: Germany ix+273 pp.

ISBN: 3 540 67996 0 Material Identity Number: XX-2000-00690

Conference Title: Proceedings of 3rd International Workshop on Approximation Algorithms for Combinatorial Optimization Problems

Conference Sponsor: Max-Planck-Inst. Comput. Sci.; Approximation & On-Line Algorithms; et al

Conference Date: 5-8 Sept. 2000 Conference Location: Saarbrucken, Germany

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: We study the problem of finding highly connected subgraphs of undirected and directed graphs. For undirected graphs, the notion of density of a subgraph we use is the average degree of the subgraph. For directed graphs, a corresponding notion of density was introduced by Kannan and Vinay (1999). This is designed to quantify highly connectedness of substructures in a sparse directed graph such as the web graph. We study the optimization problems of finding subgraphs maximizing these notions of density for undirected and directed graphs. The paper gives simple greedy approximation algorithms for these optimization problems. We also answer and open question about the complexity of the optimization problem for directed graphs. (13 Refs)

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7/7/4 (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

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6708917 INSPEC Abstract Number: B2000-10-6250-049

Title: Minimum outage transmission over fading channels with delay constraint

Author(s): Negi, R.; Charikar, M. ; Cioffi, J.

Author Affiliation: Inf. Syst. Lab., Stanford Univ., CA, USA

Conference Title: 2000 IEEE International Conference on Communications. ICC 2000. Global Convergence Through Communications. Conference Record Part vol.1 p.282-6 vol.1

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2000 Country of Publication: USA 3 vol. xxxii+1814 pp.

ISBN: 0 7803 6283 7 Material Identity Number: XX-1999-03416

U.S. Copyright Clearance Center Code: 0 7803 6283 7/2000/\$10.00

Conference Title: Proceedings of IEEE International Conference on Communications

Conference Date: 18-22 June 2000 Conference Location: New Orleans, LA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: We consider a block flat fading channel, where both the transmitter and receiver have perfect knowledge of the channel gain of the current block, but have no knowledge of future blocks. For a delay constraint of K blocks, and a target rate $R/\text{sub } 0/$, we derive the optimum power adaptation strategy that would minimize the probability of outage, which is equivalent to finding the outage capacity. Both, short term and long term power constraints are considered. Significant power gains are afforded by the strategy for all SNRs, even for small K . (6 Refs)

Subfile: B

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7/7/5 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

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6708565 INSPEC Abstract Number: B2000-10-0240J-002, C2000-10-1140J-002

Title: On targeting Markov segments

Author(s): Charikar, M. ; Kumar, R.; Raghaven, P.; Rajagopalan, S.; Tomkins, A.

Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA

Conference Title: Proceedings of the Thirty-First Annual ACM Symposium on Theory of Computing p.99-108

Publisher: ACM, New York, NY, USA

Publication Date: 1999 Country of Publication: USA xi+790 pp.

ISBN: 1 58113 067 8 Material Identity Number: XX-1999-02179

U.S. Copyright Clearance Center Code: 1 58113 067 8/99/05...\$5.00

Conference Title: Proceedings of STOC 99: 31st Annual Symposium on Theory of Computing

Conference Sponsor: ACM

Conference Date: 1-4 May 1999 Conference Location: Atlanta, GA, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: Consider two user populations, of which one is targeted and the other is not. Users in the targeted population follow a Markov chain on a space of n states. The untargeted population follows another Markov chain, also defined on the same set of n states. Each time a user arrives at a

state, he/she is presented with information appropriate for the targeted population (an advertisement, or a recommendation) with some probability. Presenting the advertisement incurs a cost. Notice that while the revenue grows in proportion to the flow of targeted users through the state, the cost grows in proportion to the total flow (targeted and untargeted) through the state. How can we compute the best advertisement policy? The world-wide web is a natural setting for such a problem. Internet service providers have trail information for building such Markovian user models where states correspond to pages on the web. In this paper we study the simple problem above, as well as the variants with multiple targetable segments. In some settings the policy need not be a static probability distribution on states. Instead, we can dynamically vary the policy based on the user's path through the states. We provide characterizations which reveal interesting insights into the nature of optimal policies, and then, use these insights for algorithm design. Targeting problems do not seem amenable to solutions using methods from familiar fields such as Markov decision processes. (12 Refs)

Subfile: B C

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7/7/6 (Item 6 from file: 2)

DIALOG(R) File 2:INSPEC

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6647453 INSPEC Abstract Number: C2000-08-6120-021

Title: Min-wise independent permutations

Author(s): Broder, A.Z.; Charikar, M. ; Frieze, A.M.; Mitzenmacher, M.

Author Affiliation: AltaVista Co., San Mateo, CA, USA

Journal: Journal of Computer and System Sciences Conference Title: J. Comput. Syst. Sci. (USA) vol.60, no.3 p.630-59

Publisher: Academic Press,

Publication Date: June 2000 Country of Publication: USA

CODEN: JCSSBM ISSN: 0022-0000

SICI: 0022-0000(200006)60:3L.630:WIP;1-M

Material Identity Number: J066-2000-004

U.S. Copyright Clearance Center Code: 0022-0000/2000/\$35.00

Conference Title: Proceedings of STOC98: 13th Annual ACM Symposium on Theory of Computing

Conference Sponsor: ACM

Conference Date: 23-26 May 1998 Conference Location: Dallas, TX, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P); Theoretical (T)

Abstract: We define and study the notion of min-wise independent families of permutations. We say that F contained in $S/\text{sub } n/$ (the symmetric group) is min-wise independent if for any set x contained in $[n]$ and any x in X , when π is chosen at random in F we have $\Pr(\min\{\pi(X)\} = \pi(x)) = 1/X$. In other words we require that all the elements of any fixed set X have an equal chance to become the minimum element of the image of X under π . Our research was motivated by the fact that such a family (under some relaxations) is essential to the algorithm used in practice by the AltaVista web index software to detect and filter near-duplicate documents. However, in the course of our investigation we have discovered interesting and challenging theoretical questions related to this concept-we present the solutions to some of them and we list the rest as open problems. (26 Refs)

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7/7/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC
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6552700 INSPEC Abstract Number: C2000-05-6150N-043

Title: On-line load balancing for related machines

Author(s): Berman, P.; Charikar, M. ; Karpinski, M.
Author Affiliation: Pennsylvania State Univ., University Park, PA, USA
Journal: Journal of Algorithms vol.35, no.1 p.108-21
Publisher: Academic Press,
Publication Date: April 2000 Country of Publication: USA
CODEN: JOALDV ISSN: 0196-6774
SICI: 0196-6774(200004)35:1L.108:LLBR;1-5
Material Identity Number: A733-2000-003
U.S. Copyright Clearance Center Code: 0196-6774/2000/\$35.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: We consider the problem of scheduling permanent jobs on related machines in an on-line fashion. We design a new algorithm that achieves the competitive ratio of $3 + \sqrt{8}$ approximately=5.828 for the deterministic version, and $3.31/\ln 2.155$ approximately=4.311 for its randomized variant, improving the previous competitive ratios of 8 and $2e$ approximately=5.436. We also prove lower bounds of 2.4380 on the competitive ratio of deterministic algorithms and 1.8372 on the competitive ratio of randomized algorithms for this problem. (14 Refs)

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7/7/8 (Item 8 from file: 2)
DIALOG(R)File 2:INSPEC
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6431126 INSPEC Abstract Number: C2000-01-1290-031

Title: Improved combinatorial algorithms for the facility location and k-median problems

Author(s): Charikar, M. ; Guha, S.
Author Affiliation: Stanford Univ., CA, USA
Conference Title: 40th Annual Symposium on Foundations of Computer Science (Cat. No.99CB37039) p.378-88
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1999 Country of Publication: USA xiv+668 pp.
ISBN: 0 7695 0409 4 Material Identity Number: XX-1999-03193
U.S. Copyright Clearance Center Code: 0 7695 0409 4/99/\$10.00
Conference Title: 40th Annual Symposium on Foundations of Computer Science
Conference Sponsor: IEEE Comput. Soc. Tech. Committe on Math. Found. Comput
Conference Date: 17-19 Oct. 1999 Conference Location: New York City, NY, USA

Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)

Abstract: We present improved combinatorial approximation algorithms for the uncapacitated facility location and k-median problems. Two central ideas in most of our results are cost scaling and greedy improvement. We present a simple greedy local search algorithm which achieves an approximation ratio of $2.414 + \epsilon$ in $O(n/\epsilon^2)$ time. This also yields a bicriteria approximation tradeoff of $(1 + \gamma, 1 + 2/\gamma)$ for facility cost versus service cost which is better than previously known tradeoffs and close to the best possible. Combining greedy improvement and

cost scaling with a recent primal dual algorithm for facility location due to K. Jain and V. Vazirani (1999), we get an approximation ratio of 1.853 in $O(n/\sup 3/)$ time. This is already very close to the approximation guarantee of the best known algorithm which is LP-based. Further combined with the best known LP-based algorithm for facility location, we get a very slight improvement in the approximation factor for facility location, achieving 1.728. We present improved approximation algorithms for capacitated facility location and a variant. We also present a 4-approximation for the k-median problem, using similar ideas, building on the 6-approximation of Jain and Vazirani. The algorithm runs in $O(n/\sup 3/)$ time. (24 Refs)

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7/7/9 (Item 9 from file: 2)

DIALOG(R) File 2:INSPEC

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6391786 INSPEC Abstract Number: C1999-12-4240C-021

Title: Approximation algorithms for directed Steiner problems

Author(s): Charikar, M. ; Chekuri, C. ; To-Yat Cheung; Zuo Dai; Goel, A.; Guha, S.; Ming Li

Author Affiliation: Stanford Univ., CA, USA

Journal: Journal of Algorithms vol.33, no.1 p.73-91

Publisher: Academic Press,

Publication Date: Oct. 1999 Country of Publication: USA

CODEN: JOALDV ISSN: 0196-6774

SICI: 0196-6774(199910)33:1L.73:AADS;1-N

Material Identity Number: A733-1999-007

U.S. Copyright Clearance Center Code: 0196-6774/99/\$30.00

Language: English Document Type: Journal Paper (JP)

Treatment: Theoretical (T)

Abstract: We give the first nontrivial approximation algorithms for the Steiner tree problem and the generalized Steiner network problem on general directed graphs. These problems have several applications in network design and multicast routing. For both problems, the best ratios known before our work were the trivial $O(k)$ -approximations. For the directed Steiner tree problem, we design a family of algorithms that achieves an approximation ratio of $i(i-1)k/\sup 1/1/$ in time $O(n/\sup 1/k/\sup 21/)$ for any fixed $i>1$, where k is the number of terminals. Thus, an $O(k/\sup \epsilon/)$ approximation ratio can be achieved in polynomial time for any fixed $\epsilon>0$. Setting $i=\log k$, we obtain an $O(\log/\sup 2/ k)$ approximation ratio in quasi-polynomial time. For the directed generalized Steiner network problem we give an algorithm that achieves an approximation ratio of $O(k/\sup 2/3/\log/\sup 1/3/k)$, where k is the number of pairs of vertices that are to be connected. Related problems including the group Steiner tree problem, the set TSP problem, and several others in both directed and undirected graphs can be reduced in an approximation preserving fashion to the directed Steiner tree problem. Thus, we obtain the first nontrivial approximations to those as well. All these problems are known to be as hard as the Set cover problem to approximate. (27 Refs)

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7/7/10 (Item 10 from file: 2)

DIALOG(R) File 2:INSPEC

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6128804 INSPEC Abstract Number: C1999-02-4240-022

Title: Approximating a finite metric by a small number of tree metrics
Author(s): Charikar, M. ; Chekuri, C.; Goel, A.; Guha, S.; Plotkin, S.
Author Affiliation: Stanford Univ., CA, USA
Conference Title: Proceedings 39th Annual Symposium on Foundations of Computer Science (Cat. No.98CB36280) p.379-88
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1998 **Country of Publication:** USA xiv+745 pp.
ISBN: 0 8186 9172 7 **Material Identity Number:** XX-1998-03194
U.S. Copyright Clearance Center Code: 0 8186 9172 7/98/\$10.00
Conference Title: Proceedings of 39th Annual Symposium on Foundations of Computer Science
Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Math. Found. Comput
Conference Date: 8-11 Nov. 1998 **Conference Location:** Palo Alto, CA, USA
Language: English **Document Type:** Conference Paper (PA)
Treatment: Practical (P); Theoretical (T)
Abstract: Y. Bartal (1996, 1998) gave a randomized polynomial time algorithm that given any n point metric G , constructs a tree T such that the expected stretch (distortion) of any edge is at most $O(\log n \log \log n)$. His result has found several applications and in particular has resulted in approximation algorithms for many graph optimization problems. However approximation algorithms based on his result are inherently randomized. In this paper we derandomize the use of Bartal's algorithm in the design of approximation algorithms. We give an efficient polynomial time algorithm that given a finite n point metric G , constructs $O(n \log n)$ trees and a probability distribution μ on them such that the expected stretch of any edge of G in a tree chosen according to μ is at most $O(\log n \log \log n)$. Our result establishes that finite metrics can be probabilistically approximated by a small number of tree metrics. We obtain the first deterministic approximation algorithms for buy-at-bulk network design and vehicle routing; in addition we subsume results from our earlier work on derandomization. Our main result is obtained by a novel view of probabilistic approximation of metric spaces as a deterministic optimization problem via linear programming. (28 Refs)
Subfile: C
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7/7/11 (Item 11 from file: 2)
 DIALOG(R)File 2:INSPEC
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6069067 INSPEC Abstract Number: C9812-4240-018
Title: Rounding via trees: deterministic approximation algorithms for group Steiner trees and k -median
Author(s): Charikar, M. ; Chekuri, C.; Goel, A.; Guha, S.
Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA
Conference Title: Proceedings of the Thirtieth Annual ACM Symposium on Theory of Computing p.114-23
Publisher: ACM, New York, NY, USA
Publication Date: 1998 **Country of Publication:** USA x+684 pp.
ISBN: 0 89791 962 9 **Material Identity Number:** XX98-01363
U.S. Copyright Clearance Center Code: 0 89791 962 9/98/5...\$5.00
Conference Title: Proceedings of STOC98: 13th Annual ACM Symposium on Theory of Computing
Conference Sponsor: ACM
Conference Date: 23-26 May 1998 **Conference Location:** Dallas, TX, USA
Language: English **Document Type:** Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: Most optimization problems on an undirected graph reduce in

complexity when restricted to instances on a tree. A recent result for probabilistically approximating graph metrics by trees such that no edge stretches (in an expected sense) by more than a factor of $O(\log^2 n)$ has resulted in several approximation algorithms which exploit the ease of solving problems on trees. The tree construction in Bartal (1996) is inherently randomized and a natural question to ask is whether approximation algorithms which use this construction can be derandomized. We present a general framework for derandomizing approximation algorithms which use the above tree construction as a primitive. Let P_i be a graph optimization problem which can be expressed as an integer program with 0-1 variables $x(e)$ for each edge and with an objective function expressible as.

(24 Refs)

Subfile: C

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7/7/12 (Item 12 from file: 2)

DIALOG(R)File 2:INSPEC

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5723720 INSPEC Abstract Number: C9711-1180-060

Title: Constrained TSP and low-power computing

Author(s): Charikar, M. ; Motwani, R. ; Raghavan, P. ; Silverstein, C.

Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA

Conference Title: Algorithms and Data Structures. 5th International Workshop, WADS '97 Proceedings p.104-15

Editor(s): Dehne, F. ; Rau-Chaplin, A. ; Sack, J.-R. ; Tamassia, R.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1997 Country of Publication: Germany x+476 pp.

ISBN: 3 540 63307 3 Material Identity Number: XX97-01899

Conference Title: Proceedings of Workshop on Algorithms and Data Structures

Conference Sponsor: Carleton Univ.; TUNS/Dalhousie Univ

Conference Date: 6-8 Aug. 1997 Conference Location: Halifax, NS, Canada

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T)

Abstract: In the precedence-constrained traveling salesman problem (PTSP) one is given a partial order on n nodes, each of which is labeled by one of k points in a metric space. One has to find a visit order consistent with the precedence constraints that minimizes the total cost of the corresponding path in the metric space. The authors give negative results on approximability by relating the problem to the shortest common supersequence problem, helping to explain why there has been very little success in approximation algorithms for this problem. They also give approximation algorithms for a number of special cases, included cases appropriate for a problem in low-power computing; in the process, they show that algorithms for the k -server problem and the traveling salesman problem can be used to derive approximation algorithms for the PTSP. They give tight bounds on the approximation ratios achieved by natural classes of algorithms for this optimization problem (which include algorithms proposed and used in empirical studies of this problem). They briefly summarize results of experiments with several algorithms on a standard set of compiler benchmarks, comparing several known and new algorithms. (24 Refs)

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7/7/13 (Item 1 from file: 65)

DIALOG(R)File 65:Inside Conferences

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04132206 INSIDE CONFERENCE ITEM ID: CN043389671

Approximating Min-Sum k-Clustering in Metric Spaces

Bartal, Y.; Charikar, M. ; Raz, D.

CONFERENCE: Theory of computing-Annual symposium; 33rd

ANNUAL ACM SYMPOSIUM ON THEORY OF COMPUTING, 2001; 33RD P: 11-20

ACM Press, 2001

ISBN: 1581133499

LANGUAGE: English DOCUMENT TYPE: Conference Papers

CONFERENCE SPONSOR: Association for Computing Machinery

CONFERENCE LOCATION: Hersonissos, Greece 2001; Jul (200107) (200107)

7/7/14 (Item 2 from file: 65)

DIALOG(R)File 65:Inside Conferences

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03494693 INSIDE CONFERENCE ITEM ID: CN036842015

Towards Estimation Error Guarantees for Distinct Values

Charikar, M. ; Chaudhuri, S.; Motwani, R.; Narasayya, V.

CONFERENCE: Principles of database systems; Proceedings of the nineteenth

ACM SIGMOD-SIGACT-SIGART symposium on principles of database systems-Symposium; 19th

PROCEEDINGS OF THE ACM SIGMOD SIGACT SIGART SYMPOSIUM ON PRINCIPLES OF DATABASE SYSTEMS, 2000; 19TH P: 268-279

ACM Press, 2000

ISBN: 158113214X

LANGUAGE: English DOCUMENT TYPE: Conference Papers

CONFERENCE SPONSOR: Association for Computing Machinery

Association for Computing Machinery

Association for Computing Machinery

CONFERENCE LOCATION: Dallas, TX

CONFERENCE DATE: May 2000

NOTE:

Also known as PODS 2000

7/7/15 (Item 3 from file: 65)

DIALOG(R)File 65:Inside Conferences

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03181792 INSIDE CONFERENCE ITEM ID: CN033693898

The Dynamic Servers Problem

Charikar, M. ; Halperin, D.; Motwani, R.

CONFERENCE: Discrete algorithms-Annual symposium; 9th

PROCEEDINGS OF THE ANNUAL ACM SIAM SYMPOSIUM ON DISCRETE ALGORITHMS, 1998; 9TH P: 410-419

New York, Association of Computing Machinery, 1998

ISBN: 0898714109

LANGUAGE: English DOCUMENT TYPE: Conference Papers

CONFERENCE SPONSOR: ACM

SIAM

Activity Group on Discrete Mathematics

CONFERENCE LOCATION: San Francisco, CA

CONFERENCE DATE: Jan 1998 (199801) (199801)

NOTE:

Also known as SODA '98

7/7/16 (Item 4 from file: 65)

DIALOG(R)File 65:Inside Conferences
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02567759 INSIDE CONFERENCE ITEM ID: CN026768991

**Rounding via Tree: Deterministic Approximation Algorithms for Group
Steiner Trees and kappa-median**

Charikar, M. ; Chekuri, C.; Goel, A.; Guha, S.

CONFERENCE: Theory of computing-Annual symposium; 30th
ANNUAL ACM SYMPOSIUM ON THEORY OF COMPUTING, 1998; VOL 30 P: 114-123
ACM Press, 1998

ISBN: 0897919629

LANGUAGE: English DOCUMENT TYPE: Conference Papers

CONFERENCE SPONSOR: ACM Special Interest Group for Algorithms and
Computation Theory

CONFERENCE LOCATION: Dallas, TX

CONFERENCE DATE: May 1998 (199805) (199805)

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File 348:EUROPEAN PATENTS 1978-2004/Nov W04

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File 349:PCT FULLTEXT 1979-2002/UB=20041202,UT=20041125

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Set	Items	Description
S1	0	AU=(CHARIKAR, M? OR CHARIKAR M?)
S2	0	AU='MOSES S'
S3	1233988	OBJECT OR OBJECTS OR JDO OR UNIT? ? OR CODE? ? OR INSTANCE OR OOP OR ENTITY OR ENTITIES
S4	1277720	SKETCH? OR COMPOSITE? ? OR DRAWING? ? OR REPRESENTATION? ? OR PICTURE? ? OR IMAGE? ? OR IMAGING
S5	257470	(CREAT? OR BUILD? OR ESTIMAT? OR GENERA? OR EXTRACT? OR CO- NSTRUCT? OR PRODUCE? OR PRODUCING OR PRODUCTION? OR OUTPUT? OR DESIGN?) (6N)S4
S6	1189601	SIMILIAR? OR LIKENESS OR COMMON? OR TRAIT? OR FEATURE? ? OR REDUNDANC? OR ONENESS? OR SAMENESS OR IDENTICAL?
S7	101838	S6(6N) (MATCH? OR COMPARE? OR COMPARING OR IDENTIF? OR COMP- ARISON? OR OVERLAP? OR EVALUAT? OR OVER()LAP? OR ANALYS? OR A- NALYZ? OR DETERMIN? OR COMPUTE OR COMPUTING OR COMPUTES OR CA- LCULAT?)
S8	682527	VECTOR? OR RESULTANT? ? OR F()SPACE? OR SPATIAL OR COORDIN- ATE? ? OR LINEAR? OR ALGORITHM?
S9	936373	WEIGHT? OR SCORE? OR SCORING OR GRADE? OR VALUE
S10	29808	PREDETERMINED()HASH? OR MULTIPLIER?
S11	671041	PRODUCT? ? OR MULTIPLY? OR MULTIPLICATION?
S12	1184708	SUM OR SUMS OR SUMMING OR ADD OR ADDS OR ADDITION OR TOTAL?
S13	1259	X()BIT? ? OR XBIT? ?
S14	1233988	S3 OR MC=T01-F07?
S15	32	S5(3S)S7(3S)S8(3S)S9(3S)S10(3S)S11(3S)S12
S16	28	S3(3S)S15
S17	14	IC=G06F-009/44 AND (S5(3S)S7(3S)S8(3S)S9(3S)(S10:S12))
S18	42	S16 OR S17
S19	31	S18 NOT PY>2001

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19/5/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00744016

**Error diffusion halftoning with homogeneous response in high/low intensity
image regions**

**Fehlerdiffusionhalbtonraasterung mit homogener Ausgabe in Bildbereichen
hoher/niedriger Intensitat**

**Obtention de demi-teintes par diffusion d'erreurs avec reponse homogene
dans des regions d'images de forte/faible intensite**

PATENT ASSIGNEE:

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LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 702482 A2 960320 (Basic)

EP 702482 A3 970618

EP 702482 B1 010620

APPLICATION (CC, No, Date): EP 95306305 950908;

PRIORITY (CC, No, Date): US 306299 940915

DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: H04N-001/405
CITED PATENTS (EP B): EP 414505 A; EP 606132 A; US 5307425 A

ABSTRACT EP 702482 A2

A method and apparatus for quantizing pixels in an image formed by a plurality of pixels, each pixel constituting an image signal representing optical density of the image at a location therein, and having an original optical density value selected from one of a set of 'c' original optical density values that has a number of members larger than a desired output set of 'd' optical density values, through a process of error diffusion. For an input image so comprised, initially, an image signal is initially modified (12) in accordance with previously determined error ((epsilon)(sub(n,l))). Thereafter, during the quantization step of the process, the threshold signal (T(sub(n,l))) for quantization determination is dynamically adjusted (80-112) in accordance with previous output quantization determinations to selectively control likelihood of whether the next pixel will exceed the threshold. The threshold level is selectively modified on a pixel by pixel basis to increase or decrease the likelihood that the next pixel will be quantized to one state or another state. In addition to this control, however, the increase or decrease in the threshold level is based upon a regional input intensity. With the threshold signal set as described, the modified input signal is evaluated, and an output signal that is one of d levels is determined accordingly. Subsequent to quantization, the difference between the determined output signal and the modified input signal is evaluated and stored as error, to be dispersed for addition to a preselected group of unevaluated neighboring signals. (see image in original document)

ABSTRACT WORD COUNT: 276

NOTE:

Figure number on first page: 3

LEGAL STATUS (Type, Pub Date, Kind, Text):

Grant: 010620 B1 Granted patent
Application: 960320 A2 Published application (A1with Search Report
;A2without Search Report)
Oppn None: 020612 B1 No opposition filed: 20020321
Search Report: 970618 A3 Separate publication of the European or
International search report
Examination: 980225 A2 Date of filing of request for examination:
971218
Change: 980701 A2 Representative (change)
Examination: 990929 A2 Date of dispatch of the first examination
report: 19990816

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	1760
CLAIMS B	(English)	200125	1020
CLAIMS B	(German)	200125	940
CLAIMS B	(French)	200125	1197
SPEC A	(English)	EPAB96	4928
SPEC B	(English)	200125	4387
Total word count - document A			6690
Total word count - document B			7544
Total word count - documents A + B			14234

PRIORITY (CC, No, Date): US 112133 930826
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS: G06K-009/64;

ABSTRACT EP 640934 A2

An OCR system 10 classifies an input image vector of an unclassified symbol with respect to a library of T template image vectors of pre-classified characters. Each template vector is in the form of a sequence of elements representing the image contrast level of a pixel within the character defined by that template vector. Each template element is part of the image background or foreground or transition ground between the background and foreground. The input vector, like the template vectors, is also in the form of a sequence of elements. However, in the input vector, the elements represent an image contrast level signal component defining the symbol within the image of the unclassified symbol and a greyscale noise component. Each input element is also part of the background or foreground or transition ground. The input vector and at least one of the T template vectors are entered into a classifier device 18. The input vector is classified based on the backgrounds, foregrounds, and transition grounds. The presence of transition ground in the input vector and the template vector produces a robust classification response with a more uniform correlation coefficient between repeated classifications of the same input symbol. The classifier device may be a distance function classifier or a neural network classifier. (see image in original document)

ABSTRACT WORD COUNT: 218

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 950301 A2 Published application (A1with Search Report
;A2without Search Report)
Search Report: 951004 A3 Separate publication of the European or
International search report
Examination: 960417 A2 Date of filing of request for examination:
960219
Examination: 960605 A2 Date of despatch of first examination report:
960422
Grant: 980513 B1 Granted patent
Oppn None: 990506 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9820	5233
CLAIMS B	(German)	9820	4182
CLAIMS B	(French)	9820	6360
SPEC B	(English)	9820	5463
Total word count - document A			0
Total word count - document B			21238
Total word count - documents A + B			21238

19/5/7 (Item 7 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00490317

Image processing apparatus

Bildverarbeitungsvorrichtung

Appareil de traitement d'image

PATENT ASSIGNEE:

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Ohta, Ken-ichi, 54-50, Shibokuchi, Takatsu-ku, Kawasaki-shi, Kanagawa-ken
, (JP)
Takaragi, Yoichi, 7-28-2, Hiyoshi 3-chome, Kohoku-ku, Yokohama-shi,
Kanagawa-ken, (JP)
Ohta, Eiji, 2-8, Kataseyama 3-chome, Fujisawa-shi, Kanagawa-ken, (JP)

LEGAL REPRESENTATIVE:

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PATENT (CC, No, Kind, Date): EP 488796 A1 920603 (Basic)
EP 488796 B1 970827

APPLICATION (CC, No, Date): EP 91311132 911129;

PRIORITY (CC, No, Date): JP 90330883 901130; JP 90330884 901130; JP
90330886 901130; JP 90330888 901130; JP 90330889 901130; JP 90330890
901130

DESIGNATED STATES: DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: G03G-021/00; G06K-009/64;

CITED PATENTS (EP A): EP 295876 A; EP 295876 A; EP 342060 A; EP 342060 A;
EP 342060 A

CITED REFERENCES (EP A):

PATENT ABSTRACTS OF JAPAN vol. 13, no. 464 (P-947)20 October 1989;

ABSTRACT EP 488796 A1

An image processing apparatus of the present invention inputs image
data representing an image, discriminates whether the image represented
by the input image data is a first predetermined image, and discriminates
whether the image represented by the input image data is a second
predetermined image different from the first predetermined image, the
above-mentioned two discrimination performing discriminating operation
parallelly. (see image in original document)

ABSTRACT WORD COUNT: 66

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 920603 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 921216 A1 Date of filing of request for examination:
921021

Examination: 940309 A1 Date of despatch of first examination report:
940120

Grant: 970827 B1 Granted patent

Oppn None: 980819 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9708W4	1077
CLAIMS B	(German)	9708W4	1030
CLAIMS B	(French)	9708W4	1226
SPEC B	(English)	9708W4	16426
Total word count - document A			0
Total word count - document B			19759
Total word count - documents A + B			19759

19/5/8 (Item 8 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00458226

Public key cryptographic system using elliptic curves over rings.

Verschlüsselungssystem mit öffentlichem Schlüssel unter Verwendung
elliptischer Kurven über Ringe.

Systeme cryptographique a cle publique utilisant des courbes elliptiques
sur des anneaux.

PATENT ASSIGNEE:

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AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)

INVENTOR:

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LEGAL REPRESENTATIVE:

EGLI-EUROPEAN PATENT ATTORNEYS (100912), Horneggstrasse 4, CH-8008 Zurich
, (CH)

PATENT (CC, No, Kind, Date): EP 503119 A1 920916 (Basic)

EP 503119 B1 950920

APPLICATION (CC, No, Date): EP 91103933 910314;

PRIORITY (CC, No, Date): EP 91103933 910314

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: H04L-009/30;

CITED REFERENCES (EP A):

PROCEEDINGS OF CRYPTO '89

August 1989, NEW YORK

(US) pages 186 - 192; BENDER ET AL.: 'ON THE IMPLEMENTATION OF ELLIPTIC
CURVE CRYPTOSYSTEMS'

PROCEEDINGS OF AUSCRYPT '90

January 1990, NEW YORK

(US) pages 2 - 13; MENEZES ET AL.: 'THE IMPLEMENTATION OF ELLIPTIC CURVE
CRYPTOSYSTEMS';

ABSTRACT EP 503119 A1

The cryptographic system comprises at least one encryption station, one
decryption station and a trapdoor generator.

The trapdoor generator comprises means for selecting r distinct prime
numbers p (see image reference in original document), generating a modulus
 m that is a product of the prime numbers p (see image reference in
original document), selecting a pair of integers (a, b) satisfying $0 \leq a$
 $< m$ and $0 \leq b < m$, computing for each p (see image reference in
original document) a number $N(p)$ (see image reference in original
document)) of distinct pairs of integers (x, y) satisfying $0 \leq x <$
 p (see image reference in original document) and $0 \leq y < p$ (see image
reference in original document) and $y^2 \equiv x^3 + ax + b \pmod{p}$
(see image reference in original document)) and a sum $N(p)$ (see image
reference in original document)) + 1 representative of an order of an
elliptic curve defined as the set of pairs of integers (x, y) , computing a
least common multiple (μ) of the values $N(p)$ (see image reference in
original document)) + 1, selecting a public multiplier e relatively prime
to (μ) , computing a secret multiplier d according to $d \equiv 1/e \pmod{(\mu)}$,
and transferring data comprising at least m , a , b and e to a storage
means provided in the cryptographic system.

Alternatively, the trapdoor generator comprises means for selecting r
distinct prime numbers p (see image reference in original document) each
corresponding to a sum value (p) (see image reference in original document)
+ 1 that satisfies (p) (see image reference in original document) + 1 $\equiv 0$
 \pmod{j} wherein $1 \leq (p)$ (see image reference in original document) $\leq r$ and
 j is 3 or 4, generating a modulus m that is a product of the prime
numbers p (see image reference in original document), computing the least
common multiple (μ) of the numbers (p) (see image reference in original
document) + 1, selecting a public multiplier e relatively prime to (μ) ,
computing a secret multiplier d according to $d \equiv 1/e \pmod{(\mu)}$, and
transferring data comprising at least m and e to a corresponding storage
means provided in the cryptographic system. (see image in original
document)

ABSTRACT WORD COUNT: 367

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPAB96	521
CLAIMS B	(German)	EPAB96	411
CLAIMS B	(French)	EPAB96	593
SPEC B	(English)	EPAB96	6984
Total word count - document A			0
Total word count - document B			8509
Total word count - documents A + B			8509

19/5/15 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00860439 **Image available**

OBJECT-ORIENTED EXECUTION OF MULTIPLE CLAAS VERSIONS

APPAREIL, PROCEDE ET SYSTEME POUR LE TRAITEMENT DE DONNEES

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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WARREN Nigel, 25 College Crescent, Windsor, Berkshire SL4 3PF, GB, GB
(Residence), GB (Nationality), (Designated only for: US)

Legal Representative:

POTTER Julian Mark (et al) (agent), D. Young & Co, 21 New Fetter Lane,
London EC4A 1DA, GB,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200193018 A2-A3 20011206 (WO 0193018)

Application: WO 2001GB2421 20010531 (PCT/WO GB0102421)

Priority Application: GB 200013269 20000531

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 23942

English Abstract

A data processing apparatus for providing an object-oriented execution environment, such as a virtual machine operable for first and second versions of the same class is disclosed. The data processing apparatus communicates with first and second services respectively operative for first and second versions of the same class. However, the first service is allowed to communicate only with a first version execution environment, and the second service is allowed to communicate only with a

second version execution environment. The data processing apparatus is configured so that different versions of a class can share data or information between them.

French Abstract

L'invention concerne un appareil de traitement de donnees fournissant un environnement d'execution oriente objet, du type machine virtuelle operationnelle pour les premiere et seconde versions de la meme classe. L'appareil communique avec des premier et second services en correspondance operationnelle avec les premiere et seconde versions de la meme classe, respectivement. Toutefois, le premier service est autorise a communiquer seulement avec un environnement d'execution de la premiere version, et le second service peut communiquer exclusivement avec un environnement d'execution de la seconde version. L'appareil considere est concu pour que differentes versions d'une meme classe partagent entre elles des donnees ou une information specifiques.

Legal Status (Type, Date, Text)

Publication 20011206 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20030508 Late publication of international search report
Republication 20030508 A3 With international search report.
Republication 20030508 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

19/5/16 (Item 2 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00815374 **Image available**

INTERFERENCE SUPPRESSION IN CDMA SYSTEMS

ELIMINATION D'INTERFERENCE DANS DES SYSTEMES CDMA

Patent Applicant/Assignee:

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Legal Representative:

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11100, Ottawa, Ontario K2H 7T8, CA,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200148944 A1 20010705 (WO 0148944)
Application: WO 2000CA1524 20001222 (PCT/WO CA0001524)
Priority Application: CA 2293097 19991223; CA 2318658 20000912; US
2000243727 20001030

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: H04B-007/08
Publication Language: English
Filing Language: English
Fulltext Availability:
 Detailed Description
 Claims
Fulltext Word Count: 54444

English Abstract

A receiver of the present invention addresses the need for improved interference suppression without the number of transmissions by the power control system being increased, and, to this end, provides a receiver for a CDMA communications system which employs interference subspace rejection (ISR) to tune a substantially null response to interference components from selected signals of other user stations. Preferably, the receiver also tunes a substantially unity response for a propagation channel via which a corresponding user's signal was received. The receiver may be used in a base station or in a user/mobile station.

French Abstract

L'invention concerne un recepteur qui repond au besoin d'ameliorer l'elimination d'interference sans que le nombre de transmissions effectuees par le systeme de commande d'alimentation augmente. A cet effet, un recepteur destine a un systeme de communication CDMA fait appel a la suppression du sous-espace d'interference (ISR) afin d'accorder une reponse sensiblement nulle sur des composants d'interference de signaux choisis d'autres stations d'utilisateur. De preference, ce recepteur accorde egalement une reponse sensiblement unitaire pour un canal de propagation a travers lequel un signal d'utilisateur correspondant a ete recu. Ce recepteur peut etre utilise dans une structure ou dans une station d'utilisateur/station mobile.

Legal Status (Type, Date, Text)

Publication 20010705 A1 With international search report.
Publication 20010705 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20011018 Request for preliminary examination prior to end of 19th month from priority date

19/5/17 (Item 3 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT
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00802534

ANY-TO-ANY COMPONENT COMPUTING SYSTEM

SYSTEME INFORMATIQUE A COMPOSANTS TOUTE CATEGORIE

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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LOWE Steven, 1625 Starboard Drive, Hixson, TN 37343, US, US (Residence), US (Nationality), (Designated only for: US)

Legal Representative:

MEHRMAN Michael J (agent), Paper Mill Village, Building 23, 600 Village Trace, Suite 300, Marietta, GA 30067, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200135216 A2-A3 20010517 (WO 0135216)
Application: WO 2000US31231 20001113 (PCT/WO US0031231)
Priority Application: US 99164884 19991112

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/44

International Patent Class: G06F-017/22

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 275671

English Abstract

A universal data and software structure and method for an Any-to-Any computing machine in which any number of any components can be related to any number of any other components in a manner that is not intrinsically hierarchical and is intrinsically unlimited. The structure and method includes a Concept Hierarchy; each concept or assembly of concepts is uniquely identified and assigned a number in a Numbers Concept Language or uniquely identified in a Non-numbers Concept Language. Each Component or assembly of Components is intrinsically related to all other data items that contain common or related components.

French Abstract

L'invention concerne une structure de donnees et de logiciel universelle ainsi qu'un procede de machine informatique toute categorie dans laquelle des composants, quels qu'ils soient et quel que soit leur nombre, peuvent etre rattaches a d'autres composants, quels qu'ils soient et quel que soit leur nombre, d'une maniere intrinsequement non hierarchisee et intrinsequement illimitee. La structure et le procede comportent une hierarchie conceptuelle; chaque concept ou ensemble de concepts est identifie de maniere unique et recoit un numero dans un langage conceptuel de nombres ou dans un langage conceptuel de non-nombres. Chaque composant ou ensemble de composants est intrinsequement rattache a tous les autres elements de donnees qui contiennent des composants communs ou associes.

Legal Status (Type, Date, Text)

Publication 20010517 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20020808 Late publication of international search report

Republication 20020808 A3 With international search report.

19/5/18 (Item 4 from file: 349)

DIALOG(R) File 349: PCT FULLTEXT

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00784137

SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR DISTRIBUTED GARBAGE
COLLECTION IN ENVIRONMENT SERVICES PATTERNS
SYSTEME, PROCEDE ET ARTICLE DE FABRICATION EN MATIERE DE RECUPERATION
D'ESPACE REPARTI DANS DES MOTIFS DE SERVICES D'ENVIRONNEMENT

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, 1400 Page Mill
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200116729 A2-A3 20010308 (WO 0116729)

Application: WO 2000US24238 20000831 (PCT/WO US0024238)

Priority Application: US 99386435 19990831

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/44**

International Patent Class: G06F-009/46

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 150959

English Abstract

A system, method and article of manufacture are provided for detecting an orphaned server context. A collection of outstanding server objects is maintained and a list of contexts is created for each of the outstanding server objects. A compilation of clients who are interested in each of the outstanding server objects are added to the list. Recorded on the list is a duration of time since the clients invoked a method accessing each of the contexts of the outstanding server objects. The list is examined at predetermined intervals for determining whether a predetermined amount of time has passed since each of the objects has been accessed. Contexts that have not been accessed in the predetermined amount of time are selected and information is sent to the clients identifying the contexts that have not been accessed in the predetermined amount of time.

French Abstract

L'invention concerne un systeme, un procede et un article de fabrication permettant de detecter un contexte de serveur a l'abandon. On conserve une collection d'objets de serveur en cours et on cree une liste de contextes pour chaque objet dudit serveur, a laquelle on ajoute une compilation de clients s'interessant a chaque objet de serveur en cours. On enregistre sur la liste une duree a partir du moment ou les clients lancent un procede leur permettant d'accéder a chaque contexte des objets de serveur en cours. La liste est examinee a des intervalles

predetermine pour etabli si, depuis l'accès auxdits objets, un délai prédétermine s'est écoulé ou non. Les contextes auxquels on n'a pas accès dans le délai prédétermine sont sélectionnés et les clients informés de l'identité de ces contextes.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20021227 Late publication of international search report
Republication 20021227 A3 With international search report.
Search Rpt 20021227 Late publication of international search report
Correction 20030904 Corrected version of Pamphlet: pages 1/120-120/120, drawings, replaced by new pages 1/119-119/119
Republication 20030904 A3 With international search report.

19/5/19 (Item 5 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00784135

A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR A LOCALLY ADDRESSABLE INTERFACE IN A COMMUNICATION SERVICES PATTERNS ENVIRONMENT
SYSTEME, PROCEDURE ET ARTICLE DE PRODUCTION METTANT EN OEUVRE UNE INTERFACE ADRESSABLE LOCALEMENT DANS UN ENVIRONNEMENT DE CONFIGURATIONS DE SERVICES DE COMMUNICATION

Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

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Legal Representative:

HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, 38th Floor, 2029 Century Park East, Los Angeles, CA 09967-3024, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200116727 A2-A3 20010308 (WO 0116727)
Application: WO 2000US24189 20000831 (PCT/WO US0024189)
Priority Application: US 99387064 19990831

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/44**

International Patent Class: G06F-009/46

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 151048

English Abstract

A system, method, and article of manufacture are provided for delivering service via a locally addressable interface. A plurality of globally

addressable interfaces and a plurality of locally addressable interfaces are provided. Access is allowed to a plurality of different sets of services from each of the globally addressable interfaces and the locally addressable interface. Each interface has a unique set of services associated therewith. The globally addressable interfaces are registered in a naming service for facilitating access thereto. Use of the locally addressable interfaces is permitted only via the globally addressable interfaces or another locally addressable interface.

French Abstract

L'invention concerne un systeme, un procede et un article de production qui mettent en oeuvre une interface adressable localement pour fournir des services. Plusieurs interfaces adressables globalement et plusieurs interfaces adressables localement sont mises en place. L'accès à plusieurs ensembles de services différents est autorisé à partir de chacune des interfaces adressables globalement et des interfaces adressables localement. À chaque interface est associé un ensemble unique de services. Les interfaces adressables globalement sont enregistrées dans un service d'affectation de noms pour en faciliter l'accès. L'utilisation des interfaces adressables localement n'est autorisée que si l'on passe par des interfaces adressables globalement ou par une autre interface adressable localement.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010809 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20020110 Late publication of international search report
Republication 20020110 A3 With international search report.

19/5/20 (Item 6 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00784126

SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR AN EXCEPTION RESPONSE TABLE IN ENVIRONMENT SERVICES PATTERNS

SYSTEME, PROCEDE ET ARTICLE DE PRODUCTION DESTINES A UNE TABLE DE REPONSE D'EXCEPTION DANS DES CONFIGURATIONS DE SERVICES D'ENVIRONNEMENT

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Inventor(s):

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Legal Representative:

HICKMAN Paul L (et al) (agent), Oppenheimer Wolff & Donnelly LLP, 38th Floor, 2029 century Park East, Los Angeles, CA 90067-3024, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200116706 A2-A3 20010308 (WO 0116706)

Application: WO 2000US24086 20000831 (PCT/WO US0024086)

Priority Application: US 99387873 19990831

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CU CZ DE DK DZ EE ES FI GB
GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN
YU ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 150318

English Abstract

A system, method and article of manufacture are provided for recording exception handling requirements for maintaining a consistent error handling approach. An exception response table is provided in which an exception is recorded. The context of the exception is entered in the exception response table and a response for the exception is listed in the exception response table. The response is subsequently outputted upon the exception occurring in the context.

French Abstract

L'invention concerne un systeme, un procede et un article de production qui permettent d'enregistrer des exigences de traitement d'exception dans le but de maintenir une approche de traitement d'erreurs coherente. Une table de reponse d'exception est fournie et une exception enregistree dans cette table. Le contexte de l'exception est entre dans la table de reponse d'exception apres quoi une reponse pour l'exception est listee dans la table. Cette reponse est ensuite produite si l'exception apparait dans le contexte.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20011122 Late publication of international search report

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Examination 20011220 Request for preliminary examination prior to end of 19th month from priority date

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DIALOG(R)File 349:PCT FULLTEXT

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00784125

SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR PIECEMEAL RETRIEVAL IN AN INFORMATION SERVICES PATTERNS ENVIRONMENT

SYSTEME, PROCEDE ET ARTICLE DE FABRICATION DESTINES A LA RECHERCHE FRAGMENTAIRE DANS UN ENVIRONNEMENT DE MODELES DE SERVICES D'INFORMATIONS

Patent Applicant/Assignee:

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(Residence), US (Nationality)

Inventor(s):

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2029 Century Park East, Los Angeles, CA 90067-3024, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200116705 A2-A3 20010308 (WO 0116705)

Application: WO 2000US24085 20000831 (PCT/WO US0024085)

Priority Application: US 99386433 19990831

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/44

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 150355

English Abstract

A system, method and article of manufacture are provided for providing a warning upon retrieval of objects that are incomplete. An object is provided with at least one missing attribute. Upon receipt of a request from an application for the object access to the attributes of the object is allowed by the application. A warning is provided upon an attempt to access the attribute of the object that is missing.

French Abstract

L'invention concerne un systeme, un procede et un article de fabrication concus pour emettre un avertissement lors de l'extraction d'objets qui sont incomplets. L'objet fourni presente au moins un attribut manquant. Des la reception d'une requete d'une application pour l'objet, ladite application autorise l'accès aux attributs de cet objet. Un avertissement est emis lorsque l'on tente d'accéder a l'attribut manquant de l'objet.

Legal Status (Type, Date, Text)

Publication 20010308 A2 Without international search report and to be republished upon receipt of that report.

Examination 20011018 Request for preliminary examination prior to end of 19th month from priority date

Search Rpt 20011122 Late publication of international search report

Republication 20011122 A3 With international search report.

19/5/22 (Item 8 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00781825

SYSTEM OF REUSABLE SOFTWARE PARTS AND METHODS OF USE

SYSTEME D'UNITES LOGICIELLES REUTILISABLES ET PROCEDES D'UTILISATION

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NICKOLOV Peter A, 158 Giotto, Irvine, CA 92614, US,

Legal Representative:

TACHNER Adam H (et al) (agent), Crosby, Heafey, Roach & May, Suite 2000,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200114959 A2-A3 20010301 (WO 0114959)
Application: WO 2000US22694 20000816 (PCT/WO US0022694)
Priority Application: US 99149371 19990816; US 99149624 19990816

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/46

International Patent Class: **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 182432

English Abstract

A system of reusable software parts for designing and constructing software components, applications and entire systems by assembly. Parts for generating events, shaping, distributing and controlling flows of events and other interactions are included. Also included are parts for handling synchronization and desynchronization of events and other interactions between parts, as well as parts for handling properties, parameterizing and serializing components, applications and systems. In addition, innovative adapter parts for interfacing parts that are not designed to work together are included. The system includes a dynamic container for software parts which supports integration of dynamically changing sets of parts into statically defined structures of parts. Other reusable parts for achieving such integration are also included.

French Abstract

L'invention se rapporte a un systeme d'unites logicielles reutilisables permettant la conception et la fabrication de composants logiciels, d'applications et de systemes entiers par assemblage. L'invention se rapporte a des unites destinees a la generation d'evenements, a la mise en forme, la distribution et la regulation de flux d'evenements et autres interactions. L'invention se rapporte egalement a des unites permettant de gerer la synchronisation et la desynchronisation d'evenements et autres interactions entre des unites, ainsi que des unites permettant de gerer des proprietes, de parametrier et de serialiser des composants, des applications et des systemes. L'invention se rapporte en outre a des unites adaptatrices novatrices destinees a servir d'interface entre des unites qui ne sont pas concues pour travailler ensemble. Ledit systeme comprend un contenant dynamique pour les unites logicielles, qui assure l'integration d'ensembles d'unites changeant dynamiquement au sein de structures d'unites definies de maniere statique. L'invention se rapporte en outre a des unites reutilisables destinees a la mise en oeuvre d'une telle integration.

Legal Status (Type, Date, Text)

Publication 20010301 A2 Without international search report and to be republished upon receipt of that report.

Examination 20010802 Request for preliminary examination prior to end of

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Search Rpt 20021107 Late publication of international search report
Republication 20021107 A3 With international search report.

19/5/23 (Item 9 from file: 349)
DIALOG(R) File 349:PCT FULLTEXT
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00777020

**A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR RESOURCE ADMINISTRATION IN
AN E-COMMERCE TECHNICAL ARCHITECTURE**
**SYSTEME, PROCEDE ET ARTICLE MANUFACTURE POUR L'ADMINISTRATION DE RESSOURCES
DANS UNE ARCHITECTURE TECHNIQUE DE COMMERCE ELECTRONIQUE**

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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Legal Representative:

HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, P.O. Box
52037, Palo Alto, CA 94303-0746, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200109791 A2-A3 20010208 (WO 0109791)

Application: WO 2000US20547 20000728 (PCT/WO US0020547)

Priority Application: US 99364161 19990730

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE
ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT
LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/46

International Patent Class: **G06F-009/44** ; G06F-017/60

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 136396

English Abstract

A system, method and article of manufacture provide a resources e-commerce technical architecture. One embodiment of the present invention includes first performing network performance modeling on a network. Context objects are shared among a plurality of components executed on a transaction server on the network. Application consistency is maintained by referencing text phrases through a short codes framework. Further, software modules are managed during development of the architecture.

French Abstract

Cette invention se rapporte a un systeme, a un procede et a un article manufacture qui forment une architecture technique de commerce electronique pour l'administration de ressources. Dans un mode de

realisation de cette invention, on soumet d'abord un reseau a une operation de modelisation des performances reseau. Les objets contextes sont partages entre plusieurs elements executes sur un serveur de transactions du reseau. On maintient la coherence des applications en referencant des phrases textes via une structure de codes courts. Des modules de logiciels sont en outre geres pendant l'elaboration de cette architecture.

Legal Status (Type, Date, Text)

Publication 20010208 A2 Without international search report and to be republished upon receipt of that report.
Examination 20010719 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20010830 Late publication of international search report
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19/5/24 (Item 10 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00777011 **Image available**

A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR A CODES TABLE FRAMEWORK DESIGN IN AN E-COMMERCE ARCHITECTURE
SYSTEME, PROCEDE ET ARTICLE FABRIQUE POUR LA CONCEPTION D'UNE STRUCTURE DE TABLES DE CODES DANS UNE ARCHITECTURE DE COMMERCE ELECTRONIQUE

Patent Applicant/Assignee:

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NL (Residence), NL (Nationality), (For all designated states except:
US)

Patent Applicant/Inventor:

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Legal Representative:

HICKMAN Paul L (agent), Hickman Coleman & Hughes, LLP, P.O. Box 52037,
Palo Alto, CA 94303, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200109716 A2-A3 20010208 (WO 0109716)
Application: WO 2000US20705 20000728 (PCT/WO US0020705)
Priority Application: US 99364491 19990730

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX
NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-009/46

International Patent Class: **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 136146

English Abstract

A system, method and article of manufacture are provided for maintaining

application consistency by referencing text phrases through a short codes framework. First, a table of codes each having a text phrase associated therewith is provided. Such table of codes is stored on a local storage medium. Next, the table of codes is accessed on the local storage medium. One of the text phrases is subsequently retrieved by selecting a corresponding one of the codes of the table. During operation, modification of the text phrases associated with each of the codes of the table is permitted.

French Abstract

L'invention concerne un systeme, un procede et un article fabrique destine a maintenir la coherence d'applications par reference a des phrases textuelles a l'aide d'une structure de codes courts. Tout d'abord, une table de codes a chacun desquels est associee une phrase textuelle est fournie. Cette table de codes est stockee sur un support de stockage local. Ensuite, l'accès a la table de codes est execute sur le support de stockage local. Une des phrases textuelles est ensuite extraite par selection d'un des codes correspondants de la table. Pendant le fonctionnement, la modification des phrases textuelles associees a chacun des codes de la table est permise.

Legal Status (Type, Date, Text)

Publication 20010208 A2 Without international search report and to be republished upon receipt of that report.

Search Rpt 20010927 Late publication of international search report

Republication 20010927 A3 With international search report.

19/5/25 (Item 11 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00761431

A SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR PROVIDING COMMERCE-RELATED WEB APPLICATION SERVICES

SYSTEME, PROCEDURE ET ARTICLE MANUFACTURE DESTINES A LA FOURNITURE DE SERVICES D'APPLICATION DANS LE WEB LIES AU COMMERCE

Patent Applicant/Assignee:

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Inventor(s):

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Legal Representative:

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Minneapolis, MN 55402-0903, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200073957 A2-A3 20001207 (WO 0073957)

Application: WO 2000US14420 20000525 (PCT/WO US0014420)

Priority Application: US 99321492 19990527

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY CA CH CN CR CU CZ
CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE
EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KR KR (utility model) KZ LC LK LR LS LT LU LV MA MD MG MK
MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM
TR TT TZ UA UG UG VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06F-017/30

International Patent Class: G06F-017/60; **G06F-009/44**

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 150171

English Abstract

A system, method, and article of manufacture are provided that afford a combination of commerce-related web application services. Various features are included such as allowing purchase of products and services via a displayed catalog. As an option, such catalog may be personalized. In various embodiments, a virtual shopping cart environment may be provided. Further, data, i.e. specifications, details, etc., relating to the products and services may be displayed along with a comparison between different products and services. Data relating to needs of a user may also be received for the purpose of outputting a recommendation of the products and services based on the inputted needs. Optionally, features of the products and services may be listed in order to allow the user to configure a specifically tailored product or service. Yet another aspect of the present invention includes outputting an estimate relating to a price and/or availability of the products and services. Further, an order for the products and services may be received after which a tax and a shipping fee are calculated. A status of the delivery of the ordered products and services may also be provided.

French Abstract

L'invention concerne un systeme, un procede et un article manufacture destines a la fourniture d'une combinaison de services d'application dans le Web lies au commerce. Le systeme presente plusieurs caracteristiques telles que l'achat de produits et de services grace a un catalogue affiche. En option, ce catalogue peut etre personnalise. Plusieurs modes de realisation peuvent comprendre un environnement de chariot de supermarche virtuel. En outre, des donnees, c.-a-d. des specifications, des details, etc., se rapportant aux produits et services peuvent etre affichees en meme temps qu'une comparaison entre differents produits et services. On peut aussi inclure des donnees relatives aux besoins d'un utilisateur afin de recommander des produits et services donnees sur la base des besoins entres. Eventuellement, on peut etablir une liste des caracteristiques des produits et services afin de permettre a l'utilisateur de configurer un produit ou un service personnalise. Dans un autre aspect de la presente invention, on peut produire une estimation du prix et/ou de la disponibilite des produits et services. En outre, une commande peut etre recue et une taxe et des frais d'expedition calcules. Un etat de l'expedition des produits et services commandes peut egalement etre etabli.

Legal Status (Type, Date, Text)

Publication	20001207	A2 Without international search report and to be republished upon receipt of that report.
Examination	20010222	Request for preliminary examination prior to end of 19th month from priority date
Search Rpt	20010816	Late publication of international search report
Republication	20010816	A3 With international search report.

19/5/26 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00749080 **Image available**

VIRTUAL TRUE COLOR LIGHT AMPLIFICATION

AMPLIFICATION VIRTUELLE DE LA LUMINOSITE EN COULEURS REELLES

Patent Applicant/Inventor:

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CA (Residence), CA (Nationality)

Legal Representative:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200062528 A1 20001019 (WO 0062528)

Application: WO 2000CA400 20000410 (PCT/WO CA0000400)

Priority Application: US 99129041 19990413

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU
LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT
TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: H04N-001/60

International Patent Class: H04N-001/407; H04N-009/69

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 14399

English Abstract

A method is provided for enhancing a digital image without distortion of the color. The result is an adjusted image which preserves the essential color of each and every dot in the input digital image while varying the effective light gathering power - like a virtual flash. The image enhancement is performed in RGB color space and comprises determining the maximum strength of the R, G, and B of a dot's RGB triplet and similarly for all dots. The dot maximums are scaled through a scaling function which is constrained in domain and range to the system's dynamic range. The same scaling factor that is applied to a dot maximum is also applied to each of R, G and B in the triplet. Preferably, a continuous scaling function is provided which smoothly approaches the minimum and maximum of the system's dynamic range for providing an aesthetically pleasing enhancement while maintaining true color. In a forensic embodiment, a portion of the image can be selected in RGB color space and normalized, to substantially the entire dynamic range, thereby emphasizing the area of interest, all without affecting the ratios of R, G and B for maintaining true color.

French Abstract

Cette invention concerne un procede permettant d'ameliorer une image numerique sans en alterer les couleurs. On obtient alors une image ajustee qui, par rapport a l'image numerique d'entree, a garde l'essentiel de la couleur de chacun de ses points, mais qui presente une

concentration lumineuse reelle differente tel un flash virtuel. On realise l'amelioration de l'image dans un espace RVB, ce processus comprenant une phase de determination de l'intensite maximale du rouge, du vert et du bleu (R, V et B) du triplet RVB d'un point, et ceci pour chacun des points. Ces intensites maximales sont mises a l'echelle grace a une fonction de mise a l'echelle qui limite le domaine et la plage a la plage dynamique du systeme. Le meme facteur de mise a l'echelle applique a l'intensite maximale d'un point est applique a chacun des R, V et B du triplet. On utilise de preference une fonction de mise a l'echelle continue qui permet d'approcher doucement les intensites minimales et maximales de la plage dynamique du systeme, afin d'obtenir une amelioration esthetiquement satisfaisante tout en maintenant les couleurs d'origine. Selon un mode de realisation legal, une partie de l'image peut etre selectionnee dans un espace RVB et normalisee sur pratiquement la totalite de la plage dynamique du systeme, ce qui permet d'ameliorer la zone d'interet, sans en alterer les proportions de R, V et B, ce qui permet de preserver les couleurs d'origine.

Legal Status (Type, Date, Text)

Publication 20001019 A1 With international search report.

Publication 20001019 A1 With amended claims.

Examination 20010104 Request for preliminary examination prior to end of 19th month from priority date

19/5/27 (Item 13 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00731996 **Image available**

NEURAL PROCESSING ELEMENT FOR USE IN A NEURAL NETWORK

ELEMENT DE TRAITEMENT NEURONAL UTILE DANS UN RESEAU NEURONAL

Patent Applicant/Assignee:

AXEON LIMITED, Davidson House, Aberdeen Science & Technology Park, Campus 1, Bridge of Don, Aberdeen AB22 8GT, GB, GB (Residence), GB (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

LIGHTOWLER Neil, Davidson House, Aberdeen Science & Technology Park, Campus 1, Bridge of Don, Aberdeen AB22 8GT, GB, GB (Residence), GB (Nationality), (Designated only for: US)

Legal Representative:

MURGITROYD & COMPANY, 373 Scotland Street, Glasgow G5 8QA, GB

Patent and Priority Information (Country, Number, Date):

Patent: WO 200045333 A1 20000803 (WO 0045333)

Application: WO 2000GB277 20000201 (PCT/WO GB0000277)

Priority Application: GB 992115 19990201

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004).

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06N-003/063

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 48447

English Abstract

A neural processing element for use in a modular neural network is provided. One embodiment provides a neural network comprising an array of autonomous modules (300). The modules (300) can be arranged in a variety of configurations to form neural networks with various topologies, for example, with a hierarchical modular structure. Each module (300) contains sufficient neurons (100) to enable it to do useful work as a stand alone system, with the advantage that many modules (300) can be connected together to create a wide variety of configurations and network sizes. This modular approach results in a scaleable system that meets increased workload with an increase in parallelism and thereby avoids the usually extensive increases in training times associated with unitary implementations.

French Abstract

L'invention concerne un element de traitement neuronal utile dans un reseau neuronal modulaire. Dans un mode de realisation, un reseau neuronal comporte un groupement de modules autonomes (300). Les modules (300) peuvent etre amenes selon diverses configurations pour former des reseaux neuronaux presentant diverses topologies, par exemple, une structure modulaire hierarchique. Chaque module (300) contient suffisamment de neurones (100) pour lui permettre de d'etre utile comme systeme autonome, et presente l'avantage de permettre de connecter de nombreux modules (300) entre eux pour produire une grande diversite de configurations et de tailles de reseaux. Cette approche modulaire permet d'obtenir un systeme a echelle modifiable qui repond a une augmentation de la charge de travail avec un parallelisme accru, et permet ainsi d'eviter l'allongement generalement important des durees d'apprentissage associees a la mise en place de systemes unitaires.

Legal Status (Type, Date, Text)

Publication 20000803 A1 With international search report.

Publication 20000803 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Examination 20001130 Request for preliminary examination prior to end of 19th month from priority date

19/5/28 (Item 14 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00566667 **Image available**

**ADVANCED DEFERRED SHADING GRAPHICS PIPELINE PROCESSOR
PROCESSEUR PIPELINE GRAPHIQUE EVOLUE A OMBRAGE DIFFERE**

Patent Applicant/Assignee:

APPLE COMPUTER INC, 1 Infinite Loop, Cupertino, CA 95014-2084, US, US
(Residence), US (Nationality)

Inventor(s):

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Legal Representative:

ANANIAN R Michael (et al) (agent), Flehr Hohbach Test Albritton & Herbert
LLP, Suite 3400, 4 Embarcadero Center, San Francisco, CA 94111-4187, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200030040 A1 20000525 (WO 0030040)
Application: WO 99US18971 19990820 (PCT/WO US9918971)
Priority Application: US 9897336 19980820; US 98213990 19981217

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE
GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU
ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class: G06T-015/00

International Patent Class: G06T-017/00; G06T-011/40; G06T-011/00

Publication Language: English

Filing Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 180456

English Abstract

A graphics pipeline processor that extracts (4000), sorts (6000) and
renders pixel fragments. The processor applies texture (12000) and one of
various fragment operations (11000).

French Abstract

L'invention concerne un processeur pipeline graphique qui extrait (4000),
trie (6000) et restitue des fragments de pixels. Ce processeur applique
une texture (12000) et realise une operation sur fragments parmi une
pluralite d'operations sur les fragments (11000).

Legal Status (Type, Date, Text)

Correction 20011018 Corrected version of Pamphlet: pages 1-397,
description, replaced by new pages 1-397; pages
398-401, claims, replaced by new pages 398-401;
pages 1/219-219/219, drawings, replaced by new pages

1/221-221/221; due to late transmittal by the
receiving Office
Republication 20011018 A1 With international search report.

19/5/29 (Item 15 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00563693 **Image available**

DUAL MODE QAM/VSB RECEIVER
RECEPTEUR DOUBLE MODE MAQ/BLA

Patent Applicant/Assignee:

BROADCOM CORPORATION,
JAFJE Steven T,
LIU Tian-Min,
TAN Loke Kun,

Inventor(s):

JAFJE Steven T,
LIU Tian-Min,
TAN Loke Kun,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200027066 A2 20000511 (WO 0027066)

Application: WO 99US26084 19991103 (PCT/WO US9926084)

Priority Application: US 98106921 19981103; US 98106922 19981103; US
98106923 19981103; US 98106938 19981103; US 98107037 19981103; US
98107103 19981104

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG US UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD
RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF
CG CI CM GA GN GW ML MR NE SN TD TG

Main International Patent Class: H04L-027/00

International Patent Class: H04N-005/46; H04L-027/227; H04L-025/03

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 24318

English Abstract

A television receiver system capable of receiving and demodulating television signal information content that has been modulated and transmitted in accordance with a variety of modulation formats is disclosed. In particular, the system is able to accommodate receipt and demodulation of at least 8 and 16-VSB modulated signals in order to support US HDTV applications, as well as 64 and 256-QAM modulated signals, for European and potential US CATV implementations. The system includes carrier and timing recovery loops adapted to operate on an enhanced pilot signal as well as decision directed carrier phase recovery loops. Phase detectors operate on I and Q rail signals, or generate a Q rail from a Hilbert transform of the I rail. Decision directed loops incorporate a trellis decoder in order to operate on sequence estimated decisions for improved reliability in poor SNR environments.

French Abstract

L'invention concerne un systeme de recepteur de television capable de

recevoir et de demoduler le contenu informationnel des signaux de television qui ont ete modules et transmis sous differents formats de modulation. Le systeme est notamment capable de prendre en charge la reception et la demodulation d'au moins les signaux modules 8 et 16 BLA, ce qui lui permet de prendre en charge les applications au format HDTV nord-americain ainsi que les signaux modules 64 et 256 BLA qui correspondent aux standards europeens et eventuellement a ceux nord-americains (CATV). Le systeme comprend des boucles de recuperation de la porteuse et de temporisation destinees a fonctionner avec un signal pilote ameliore ainsi qu'avec des boucles de recuperation de phase de la porteuse orientees decision. Les detecteurs de phase fonctionnent sur la base des signaux d'alimentation I et Q ou generent une alimentation Q sur la base de la transformee de Hilbert du signal I. Les boucles orientees decision comprennent un decodeur en treillis destine a fonctionner sur la base des decisions a estimation de sequences pour une meilleure fiabilite dans des environnements a SNR defavorable.

19/5/30 (Item 16 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00522087 **Image available**

MESH CONNECTED COMPUTER

ORDINATEUR A ARCHITECTURE EN RESEAU

Patent Applicant/Assignee:

LOCKHEED MARTIN CORPORATION,

Inventor(s):

ABERCROMBIE Andrew P,

DUNCAN David A,

MEEKER Woodrow L,

SCHOOMAKER Ronald W,

VAN DYKE-LEWIS Michele D,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9953439 A2 19991021

Application: WO 99US7002 19990409 (PCT/WO US9907002)

Priority Application: US 9857481 19980409

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE
GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU
ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW
ML MR NE SN TD TG

Main International Patent Class: G06T-001/20

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 72043

English Abstract

An apparatus for processing data has a Single-Instruction-Multiple-Data (SIMD) architecture, and a number of features that improve performance and programmability. The apparatus includes a rectangular array of processing elements and a controller. In one aspect, each of the processing elements includes one or more addressable storage means and other elements arranged in a pipelined architecture. The controller includes means for receiving a high level instruction, and converting

each instruction into a sequence of one or more processing element microinstructions for simultaneously controlling each stage of the processing element pipeline. In doing so, the controller detects and resolves a number of resource conflicts, and automatically generates instructions for registering image operands that are skewed with respect to one another in the processing element array. In another aspect, a programmer references images via pointers to image descriptors that include the actual addresses of various bits of multi-bit data. Other features facilitate and speed up the movement of data into and out of the apparatus. "Hit" detection and histogram logic are also included.

French Abstract

L'invention concerne un dispositif de traitement de donnees possedant une architecture a instruction unique-donnees multiples (SIMD), et plusieurs fonctions ameliorant la performance et la facilite de programmation. Ce dispositif comprend une matrice rectangulaire de processeurs elementaires et un controleur. Dans un de ses aspects, chacun des processeurs elementaires comprend un ou plusieurs moyens de memorisation adressables et d'autres elements disposes dans une architecture pipe-line. Le controleur comprend des moyens permettant de recevoir une instruction de haut niveau et de convertir chaque instruction en une sequence comprenant un ou plusieurs microinstructions de processeur elementaire qui commandent simultanement chaque etage du pipe-line de processeurs elementaires. Ce faisant, le processeur detecte et resout un certain nombre de conflits de ressources et genere automatiquement des instructions permettant d'aligner des operandes image qui sont desalignees par rapport aux autres dans la matrice de processeur elementaires. Dans un autre des ses aspects, un programmeur relie les images par l'intermediaire de pointeurs a des descripteurs d'image contenant les adresses absolues de differents bits de donnees multi-bits. D'autres fonctions facilitent et accelerent le deplacement des donnees entrant dans et sortant du dispositif. L'invention comprend en outre une detection de correspondance et une logique d'histogramme.

19/5/31 (Item 17 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00227307

REACH AND FREQUENCY ESTIMATION FOR MEDIA

ESTIMATION DE L'ETENDUE ET DE LA FREQUENCE DE CONTACT POUR LES MEDIAS

Patent Applicant/Assignee:

THE ROY MORGAN RESEARCH CENTRE PTY LTD,
RENNIE George C,
GRANT ,Peter,

Inventor(s):

RENNIE George C,
GRANT Peter,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9301554 A1 19930121

Application: WO 92AU286 19920616 (PCT/WO AU9200286)

Priority Application: AU 917023 19910702; AU 919175 19911029

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AT AU BB BG BR CA CH CS DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO
PL RO RU SD SE US AT BE CH DE DK ES FR GB GR IT LU MC NL SE BF BJ CF CG
CI CM GA GN ML MR SN TD TG

Main International Patent Class: G06F-015/36

Publication Language: English

Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 11712

English Abstract

The reach and readership contact frequency are determined for a set of advertising media vehicles (m) with a specific number of advertisements (nm) per medium. Firstly a subset of survey respondents for each vehicle are selected. The resulting response database is then filtered. Beta distributions are used to build an array containing the probabilities of being exposed to i out of nm advertisements; the beta distribution parameters being a function of the regularity of exposure of a survey respondent to a media vehicle. The array of probabilities is then combined with survey data on media usage by the respondents to determine a joint frequency distribution of opportunities to see an advertisement, distribution parameters, reach and average contact frequency.

French Abstract

On determine la frequence de contact avec des lecteurs et l'etendue de ce contact pour un ensemble de supports publicitaires (m), avec un nombre specifique de publicites (nm) par support. Tout d'abord, un sous-ensemble de personnes interrogees dans le cadre d'une etude pour chaque support est choisi. La base de donnees de reponse obtenue est ensuite filtree. Des distributions beta sont utilisees pour construire un reseau contenant les probabilites que les membres du sous-ensemble seront exposes a un nombre i de publicites, parmi un nombre (nm) de publicites, les parametres de distribution beta representant une fonction de la regularite a laquelle une personne interrogee est exposee a un media. Le reseau de probabilites est alors combine avec les donnees de l'etude sur l'utilisation des medias par les personnes interrogees afin que l'on determine une distribution de frequence conjointe des occasions de voir une publicite, des parametres de distribution, et des frequences de contact moyennes ainsi que de l'etendue de contact.

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? show files;ds

File 647: CMP Computer Fulltext 1988-2004/Nov W3
(c) 2004 CMP Media, LLC
File 275: Gale Group Computer DB(TM) 1983-2004/Dec 06
(c) 2004 The Gale Group
File 674: Computer News Fulltext 1989-2004/Sep W1
(c) 2004 IDG Communications
File 696: DIALOG Telecom. Newsletters 1995-2004/Dec 03
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File 239: Mathsci 1940-2004/Jan
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File 634: San Jose Mercury Jun 1985-2004/Dec 03
(c) 2004 San Jose Mercury News
File 256: TecInfoSource 82-2004/Nov
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Set	Items	Description
S1	27	AU=(CHARIKAR, M? OR CHARIKAR M?)
S2	0	AU='MOSES S'
S3	803811	OBJECT OR OBJECTS OR JDO OR UNIT? ? OR CODE? ? OR INSTANCE OR OOP OR ENTITY OR ENTITIES
S4	598364	SKETCH? OR COMPOSITE? ? OR DRAWING? ? OR REPRESENTATION? ? OR PICTURE? ? OR IMAGE? ? OR IMAGING
S5	94421	(CREAT? OR BUILD? OR ESTIMAT? OR GENERA? OR EXTRACT? OR CO- NSTRUCT? OR PRODUCE? OR PRODUCING OR PRODUCTION? OR OUTPUT? OR DESIGN?) (6N) S4
S6	760495	SIMILIAR? OR LIKENESS OR COMMON? OR TRAIT? OR FEATURE? ? OR REDUNDANC? OR ONENESS? OR SAMENESS OR IDENTICAL?
S7	39230	S6(6N) (MATCH? OR COMPARE? OR COMPARING OR IDENTIF? OR COMP- ARISON? OR OVERLAP? OR EVALUAT? OR OVER()LAP? OR ANALYS? OR A- NALYZ? OR DETERMIN? OR COMPUTE OR COMPUTING OR COMPUTES OR CA- LCULAT?)
S8	809955	VECTOR? OR RESULTANT? ? OR F()SPACE? OR SPATIAL OR COORDIN- ATE? ? OR LINEAR? OR ALGORITHM?
S9	696110	WEIGHT? OR SCORE? OR SCORING OR GRADE? OR VALUE
S10	15400	PREDETERMINED()HASH? OR MULTIPLIER?
S11	1388097	PRODUCT? ? OR MULTIPLY? OR MULTIPLICATION?
S12	1065391	SUM OR SUMS OR SUMMING OR ADD OR ADDS OR ADDITION OR TOTAL?
S13	27	X()BIT? ? OR XBIT? ?
S14	803811	S3 OR MC=T01-F07?
S15	1	S5(3S)S7(3S)S8(3S)S9(3S)S10(3S)S11(3S)S12
S16	52	S5(3S)S7(3S)S8(3S)S9(3S) (S10:S12)
S17	323	(S3 OR S15) (5S)S7(5S)S8(5S)S8(5S)S9(5S) (S10:S13)
S18	167	S3(3S)S7(3S)S8(3S)S8(3S)S9(3S) (S10:S13)
S19	198	S15 OR S16 OR S18
S20	180	S19 NOT PY>2001
S21	174	RD (unique items)
S22	24	S5(2S)S7(2S)S8(2S)S9(2S) (S10:S12)
S23	104	S3(2S)S7(2S)S8(2S)S8(2S)S9(2S) (S10:S13)
S24	118	S22 OR S23
S25	108	S24 NOT PY>2001
S26	105	RD (unique items)

? t26/3,k/all

26/3,K/1 (Item 1 from file: 647)

DIALOG(R)File 647: CMP Computer Fulltext
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01203162 CMP ACCESSION NUMBER: EET19991025S0040

**Frontier Design targets high-volume, command-and-control apps -
Speech-recognition core to open new markets**

Stephan Ohr
ELECTRONIC ENGINEERING TIMES, 1999, n 1084, PG38
PUBLICATION DATE: 991025
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: International
WORD COUNT: 995

... added Herman Beke, Frontier's chief executive.

The SRS core is available in C-language **object code** for DSP or RISC processors and PC platforms. It can be compiled to run on...

...or without interfaces to other on-chip logic) or as a cell-based SoC including **codec** and amplifiers. Alternatively, Frontier can market a complete OEM module that includes speaker, microphone, IFR, RF and other functionality.

Since the speech recognition **algorithm** requires only 5 to 10 Mips, any existing pager, mobile telephone or other system with...
...can include the SRS core with no extra overhead.

The SRS implements several advanced recognition **algorithms**: the Mel Frequency Cepstrum Coefficient (MFCC) **algorithm** for acoustic feature extraction; continuous noise-level estimation to eliminate background noise; coarse- and fine-word boundary detection to define the word boundaries and Dynamic Time Warping **algorithm** to identify the words used.

That algorithm compares a series of energy vectors with unequal...

26/3,K/2 (Item 2 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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01182826 CMP ACCESSION NUMBER: EET19990118S0007

**Industry frustration bubbles despite easing in 56-bit encryption rules -
Crypto confab to debate U.S. move on exports**

Craig Matsumoto
ELECTRONIC ENGINEERING TIMES, 1999, n 1044, PG4
PUBLICATION DATE: 990118
JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: News
WORD COUNT: 1216

... to transmit to a customer-built network of PCs or other devices.

RPK's main **product** is a chip containing a "mixture generator," three **linear** feedback registers that simultaneously run data- encrypting calculations and spew out the encrypted data. This...

...encryption fast and well suited for streaming data, Oswald said. Other strengths include a small **code** size and silicon size, making the engine viable for the types of embedded receivers that Comunicado customers might use.

A more **common** approach to speeding up cryptographic **calculations**, such as those found in the popular RSA **algorithm**, has been to weaken the numbers involved. "Many shortcuts have been taken in the RSA **algorithm** in the modulus size, which potentially makes it less secure," said Paul Lambert, vice president of marketing for Certicom.

That has led to **products** aimed at beefing up encryption. Cylink will use the show to tout a process it...

...of encryption that makes a message tougher to decode. The process involves extra calculations that **add** insignificant time to the transmission, Williams said. While the receiver's private key-the secret ...

...has to be recalculated, the key can't be derived based on the new, recalculated **value**. "We've been able to show the user's private key is as secret as...

26/3,K/3 (Item 3 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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01122953 CMP ACCESSION NUMBER: EET19970414S0095

Cost analysis helpful in design planning

Peter Sandborn, Chief Technical Officer, Savantage Inc., Austin, Texas
ELECTRONIC ENGINEERING TIMES, 1997, n 949, PG96

PUBLICATION DATE: 970414

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: EDA Tools

WORD COUNT: 1118

... of a system's content or manufacturing process to facilitate disassembly and recyclability of the **product** at the end of its life. Post-production analysis measures success in terms of associated...

...Most disassembly-process analysis is based on decision trees. The designer enters information on the **product** structure into a table and an **algorithm** computes the most profitable disassembly scenario using a database that includes disposal costs, revenue from...

...reused parts, and disassembly times and costs.

- Manufacturability analysis addresses the ease with which a **product** can be manufactured. Manufacturability includes proximity assessment (how close can components be placed), manual vs...

...treated qualitatively, with a knowledge-based approach, or quantitatively, if manufacturability rules are translated into **scores** with **scorecarding**. Commercial manufacturability-analysis tools are almost exclusively knowledge-based design auditors. Nearly all of them...

...development of test and rework strategies. Process-flow analysis does not necessarily address whether an **object** can be manufactured, but rather allows optimization of the manufacturing process assuming that manufacturing is...

...quality (yield) and manufacturing time estimates. Several tools are available for process-flow-oriented cost **analysis** of systems. A **common** problem with tools that do not specialize in process-flow analysis is that

they can only accommodate simple, **linear** processes with no loops. Loops are necessary to capture test/rework combinations that are critical...

26/3,K/4 (Item 4 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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01090332 CMP ACCESSION NUMBER: OEM19960501S0015

Lan Sandwich - Heavy On The Software

Barry Phillips

OEM MAGAZINE, 1996, n 327, PG46

PUBLICATION DATE: 960501

JOURNAL CODE: OEM LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: Features

WORD COUNT: 2338

... of how easy it is for end users to manage the resulting network. And some **code** is just plain handy for hedging hardware bets in the rapidly evolving world of network...

...game: OEMs need a unique selling proposition, and software is a great way to attain **product** differentiation and **add value**," says Jim Lanford, president of Marketing Magic, an up-and-coming Internet server vendor in...

...software is particularly attractive," he says. "Companies face a one-time charge for developing new **code** bases, which can be delivered to customers at a low cost per **unit** compared with hardware **features**."

The router is one black box of internetworking that's about to be gobbled up by software. This device, which uses complex **algorithms** to pick suitable paths for data packets over a variety of subdivided networks, serves a...

...services such as ISDN and public frame-relay. The software also includes modular X86 router **code** Cisco acquired when it purchased Newport Systems, a remote-access technology company, in 1995.

Compaq...

26/3,K/5 (Item 5 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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01035875 CMP ACCESSION NUMBER: VAR19941101S0005

MapInfo 3.0: GIS for the Masses? (Tech Alert)

Tom Farre

VARBUSINESS, 1994, n 11, PG27

PUBLICATION DATE: 941101

JOURNAL CODE: VAR LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: Tech Alert

WORD COUNT: 429

... It features the intuitive user interface of a map with data points combined with sophisticated **features** for visualizing, **analyzing** and manipulating geographical data. Since most databases contain addresses and ZIP **codes**, and grouping database records by location often tells us a lot, desktop mapping can **add** a new wrinkle to your suite of solutions.

The new version sports many enhancements, most...

...and scanned paper maps can now be added as a layer to MapInfo's digital **vector** maps. Maps can also be enhanced with charts, graphs and better colors.

Beyond such nuts...

...MapInfo 3.0 beyond the traditional single-user GIS application and opens a world of **value** -adding opportunities. Similarly, Version 3.0 of MapInfo's MapBasic Development Environment makes it easier...

...I first imported my database of industry contacts into MapInfo, geocoded each record by ZIP **code** to an included map of the U.S., and began manipulating the **resultant** visual database. I soon began to see the power of organizing data in this way...

26/3,K/6 (Item 6 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00596727 CMP ACCESSION NUMBER: CWK19910218S2060
Enhanced Cellular Signaling (PUBLIC NETWORKING)
COMMUNICATIONSWEEK INTERNATIONAL, 1991, n 058, 26
PUBLICATION DATE: 910218
JOURNAL CODE: CWI LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: USER NETWORKING - Products & Technology
WORD COUNT: 457

... screen with a linear or logarithmic frequency scale.

The company says measurements using a peak **value** detector and optional superimposed limit line enable fast detection of critical frequencies. The EMI test...

...yet provides many of the same facilities of larger benchtop analyzers, in a notebook-sized **unit** : time and frequency domain analysis for public networks for electronics , vibration, acoustics, signal monitoring and...

26/3,K/7 (Item 7 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00545481 CMP ACCESSION NUMBER: CRW19930920S3838
PRODUCT: QUATTRO PRO 5.0 VENDOR: BORLAND INTERNATIONAL INC.... (FIRST LOOK)
COMPUTER RETAIL WEEK, 1993, n 348 , 17
PUBLICATION DATE: 930920
JOURNAL CODE: CRW LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: products
WORD COUNT: 1419

... smart-they understand time series, so they can compress and summarize a bar chart (for **instance** , with 31 bars, one for each day of a month) into a single monthly bar...

...in your spreadsheet data- everything is handled in the charting module.

The new Intelligent Graph **feature analyzes** the data range selected and automatically gives you the best graph choice. For example,

depending...

...at the bottom of the screen-for example, @PV (payment, rate, term) for a present **value** calculation. As you enter each **value** in a cell, the corresponding **value** in the status bar changes to capital letters.

Quattro Pro helps you avoid errors by...

...from row or column labels for instant named ranges, such as FEB-SALES or 1993- **UNITS** .

Version 5.0 also adds support for arrays and copying. Now you can add two...

26/3,K/8 (Item 8 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00544789 CMP ACCESSION NUMBER: WIN19931001S3143

QUATTRO PRO 5.0 - Power Made Easy With Intelligence

James E. Powell, Northwest Bureau Editor

WINDOWS MAGAZINE, 1993, n 410 , 100

PUBLICATION DATE: 931001

JOURNAL CODE: WIN LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: FIRST IMPRESSIONS

WORD COUNT: 1952

... at the bottom of the screen-for example, @PV(payment, rate, term) for a present **value** calculation. As you enter each **value** in a call, the corresponding **value** in the status bar changes to capital letters-for example, @pv(payment, RATE, term) as...

...from row or column labels for instant named ranges, such as FEB SALES or 1993 **UNITS** .

The program now offers support for arrays and copying. You can add two complete columns...

26/3,K/9 (Item 9 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00530739 CMP ACCESSION NUMBER: EET19931025S1025

Reliability is a matter of course

PER LINDMAN ; CRAIG SMITH

ELECTRONIC ENGINEERING TIMES, 1993, n 769, 59

PUBLICATION DATE: 931025

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: Power Technologies

WORD COUNT: 3066

... the failure rate for an assembly composed of several components, the overall IFR becomes the **sum** of all the individual component failure rates. Using this approach, we can calculate the assembly...the mean, we find that the mean time to failure occurs when t has a **value** of 1/g. The mean time to failure is often abbreviated as MTTF, and the **units** are hours to failure. MTTFs can be found by taking the inverse of the IFR, or g. Another term **commonly** used in reliability **analysis** is MTBF, or mean time between failures. MTBF is found by using the MTTF and adjusting the

result for the length of time required to repair or replace failing **units** in the end **product** . Current technology , with very low failure rates and efficient field service practices, normally negates the...
...work with mathematically and tend to avoid the confusion that sometimes occurs between MTBF and **product** lifetime.

If we plot the same relationship as shown in figure 2, but this time on a **linear** scale centered on the MTTF, we obtain the result which shows that, for a large sample size, 37 percent of the **units** will be operational after MTTF, and that 50 percent of the **units** will be operational after time $0.69 \times \text{MTTF}$, if the IFR remains constant over...

...very time-intensive, often requiring months or years of effort to arrive at meaningful results. **Product** development time-to-market considerations typically do not allow for extensive measurement of reliability. In...

26/3,K/10 (Item 10 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext
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00507146 CMP ACCESSION NUMBER: EET19921221S0011

Siemens fields big, fast neural IC

R. COLIN JOHNSON

ELECTRONIC ENGINEERING TIMES, 1992, n 726, 17

PUBLICATION DATE: 921221

JOURNAL CODE: EET LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: TECHNOLOGY

WORD COUNT: 624

Designed as a special-purpose DSP, the MA 16 takes just 100 ms, for **instance** , to perform a two-dimensional convolution on an image of 512×512 pixels with...

...MA 16 sports four parallel processors, which can be cascaded into either a one-dimensional **vector** or two-dimensional array. Each processor acts as a 16-bit floating-point DSP that also supports double-precision 32-bit operations. Resolution is 16 bits for both **weights** and neural activation levels. "**Weights** are stored off-chip, because we wanted to separately tailor processing power and memory requirements...
...as normalization, Fourier transforms, convolution, rounding and truncation.

For software, Siemens developed its own Neural **Algorithm** Programming Language (NAPL) and embedded it into the C++ language. NAPL is used to decompose any neural **algorithm** into its computationally intensive and non-computationally intensive tasks, the former allocated to be run...

...now under development called the Synapse-1- short for the first system to SYNthesize Neural **Algorithms** on a Parallel Systolic Engine. Siemens is helping to develop the Synapse-1 for Esprit...

...million) neural-hardware development program.

Synapse-1 houses eight MA 16s cascaded into a 32- **unit** , one-dimensional vector processor, time-shared to realize a perceptron network consisting of 1,024...

26/3,K/11 (Item 1 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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02541846 SUPPLIER NUMBER: 78565124 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Matching Records in a National Medical Patient Index.
BELL, GLENN B.; SETHI, ANIL
Communications of the ACM, 44, 9, 83
Sept, 2001
ISSN: 0001-0782 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 3974 LINE COUNT: 00365

... III, and hyphenated names may lead to mismatches. Valid changes of address, marital status, in **addition** to name changes can cause matches to be missed. Fraud and missing data are also potential problems.

Potential Matching Methods

A variety of **algorithmic** methods can be applied to the matching problem. String comparison methods use comparison of individual letters to determine matching fields. If an approximate string match is made it is **weighted** less than a direct string match. Several authors (2, 5) suggest the number of additions...

...one string into the matching string (not necessarily of the same length). The Shift-Or **Algorithm** (7) computes an array with ones and zeros that maps matches and mismatches in letters...

...two-letter consecutive combinations while trigrams are the three-letter consecutive combinations within the test **value**. For example, the word "receive" has the trigrams "rec," "ece," "cei," "eiv," and "ive." A...

...number of bigrams or trigrams that words have in common and do not have in **common** can provide a quality of **match**. Phonetic matching can be achieved by translating each field **value** into an equivalent phonetic **code** and comparing the phonetic **codes** for matching.

Once a field match or field disagreement is determined, probabilities are used to calculate the **value** of such a determination. The Fellegi-Sunter (3) probability approach uses the probability that a...of new data. Guessing what the occurrence of error is in various fields approximates the **value** of m. The **weight** of matching field is computed as $(\log.\text{sup.}2)(m/u)$ and the **weight** of a field disagreement is $(\log.\text{sup.}2)((1-m)/(1-u))$. The composite **weight** of record matching is the **sum** of the **weights** for individual fields. The greater the composite **weight**, the greater is the probability the records are the same. The overall probabilistic method for...

...the statistics associated with the incidence of expected matches and mismatches. With the Fellegi-Sunter **algorithm**, the results are based on the input statistics regarding the probability of error (m **value**) that is not a known quantity and must be estimated for any given term.

Cases can be fed into a neural network such that a **weighted** system of neurons can be developed to determine matching patient records from those that do...

...test cases with known solutions. The neural network has the potential for development of nonobvious **algorithms** but has drawbacks of case specific applicability or wide generalizations. This method has the positive...

...main peak. Smaller peaks with greater distance from the main peak could be given less **weight**. A record with randomly matching character/symbols would be a nonmatch.

Another approach is to...

...of name versus address, nicknames, abbreviations, date of encounter relation to age of patient, zip **code** relation to location, and so forth. Such an effort would incorporate the expertise involved in...

26/3,K/12 (Item 2 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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02489948 SUPPLIER NUMBER: 72502377 (USE FORMAT 7 OR 9 FOR FULL TEXT)

UG/Shape Studio. (Software Review) (Evaluation)

GILL, TOM

Computer Graphics World, 24, 3, 65

March, 2001

DOCUMENT TYPE: Evaluation ISSN: 0271-4159 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 799 LINE COUNT: 00071

... editing underlying curves, moving surface points and poles, and changing edges. I was able to **add** bulges to surfaces by specifying exact **coordinates** and by dynamically dragging them.

Shape Studio offers several surface deformation capabilities as well. For **instance**, a Deform function allows a surface to be stretched, skewed, twisted, and bent, and a Pivot Control function defines where on the surface the deformation takes place.

Shape Studio also **features** several shape **analysis** tools. The software's face analysis display mode, for **instance**, can identify areas on a surface that might be above or below a certain **value**; the distance **value** is especially useful for finding undercut areas.

New to Shape Studio are associative section curves...

26/3,K/13 (Item 3 from file: 275)

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02454147 SUPPLIER NUMBER: 67546476 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Photoshop 6.0 artfully enables outstanding design work. (Evaluation)

Heck, Mike

InfoWorld, 22, 49, 54

Dec 4, 2000

DOCUMENT TYPE: Evaluation ISSN: 0199-6649 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 1243 LINE COUNT: 00104

... True, computer artists have other fine choices, including Corel's CorelDraw 10 and several Macromedia **products**, such as FreeHand 9 and Fireworks 4. But our testing found that none of the competitors' offerings could **match** Photoshop's **feature** set, ease of use, and integration with complementary applications, such as ImageReady 3.0, which...

...Pixel-perfect and more

In the past, when artists needed to combine sharp text or **objects** with photos, they created and manipulated text and shapes using a vector-drawing program such...

26/3,K/14 (Item 4 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

DOCUMENT TYPE: Tutorial LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 2611 LINE COUNT: 00217

... solution constraints such as joint precedence and binding or anchoring.

Bones are special nonrendering control **objects** : Move or reshape the bone, and its target **object** behaves accordingly. Really a modeling tool, bones come into their own when combined with IK...

...the percentage that each position contributes to a desired expression. This is an example of **weighted** -target or multitarget morphing.

Two other useful animation features are particle systems and function-curve...

...parameters, as well as for particle collision detection.

Motion in the real world is rarely **linear** : **Objects** may slow down gradually, then stop short, for example. Graphical function-curve editing provides the...

...flexibility over such effects. You'll also want to be able to graphically edit an **object** 's motion path and use a spline to define a motion path.

Ready to render...

...But quality is highly subjective and dependent on skillful tweaking of rendering parameters. And in **addition** to the rendering **algorithms** themselves, the quality and degree of anti-aliasing also affect the final result. Speed comparisons are similarly subjective, because you have to **compare** identical output -- harkening back to the judgment of what constitutes a good image.

Common rendering methods...

...wireframe, which draws simple polygon edges without surface attributes, to ray tracing, which calculates the **value** of each pixel based on the light rays that reach it (considering applicable refractions and reflections).

In between lies Phong shading, which determines an **object** 's colors based on **vectors** that are perpendicular to the surface. Phong shading offers a high degree of verisimilitude while...

26/3,K/21 (Item 11 from file: 275)

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02246416 SUPPLIER NUMBER: 21267079 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Open your data warehouse to customers. (includes related articles on data mining with Darwin and converging technologies) (General American Transportation Company) (Company Operations)

Sullivan, Dan

e-Business Advisor, v16, n11, p16(5)

Nov, 1998

LANGUAGE: English RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3445 LINE COUNT: 00290

... may find households grouped together based on the number of phones, types of calling plans, **total** units of service used, time distribution of calls, and the duration of individual calls. Households...

...second phone line. This type of grouping, called clustering, is done

with the Nearest Neighbor **algorithm** in Darwin. Cluster detection is often the first step in data mining. With Darwin, it...

...decision tree is like playing the child's game of 20 questions. You try to **identify** an **object** by **determining** its **features**, and classify the **object** based on those features. The best decision tree **algorithms** find the most discriminating features early in the process and lead to quick identifications. Decision...

...conclusion.

Neural networks work well in many domains and with prediction (What is the estimated **value** of one security given the **value** of these other securities?) and classification (Is this person a good credit risk?). Modeled after...

...more powerful than statistics and decision trees because its findings aren't limited to a **linear** combination of inputs. Like statistical techniques, neural nets are not easily thrown by small amounts of bad data, which can plague decision tree **algorithms**. Unlike decision trees though, it's difficult to discern rules in a neural network.

All...

26/3,K/22 (Item 12 from file: 275)

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02211946 SUPPLIER NUMBER: 21056383 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Editors' Choice. (Adobe Photoshop 5.0, CorelDraw 8.0) (Software Review) (Evaluation)

PC Magazine, v17, n16, p153(1)

Sep 22, 1998

DOCUMENT TYPE: Evaluation

ISSN: 0888-8507

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 419 LINE COUNT: 00038

... excels in the two areas that we feel are most important to the majority of **design** professionals: **image** editing (or photo editing) and compositing--the process of combining elements from two or more **images** to **create** a new **image**. This new version of Photoshop also includes some major new features. users have been clamoring...

...those of Corel Photo-Paint 8 and MetaCreations' Painter 5. And Photoshop's Web graphics **features** are minimal **compared** with those of Photo-Paint and Micrografx's Picture Publisher 8. (Adobe's answer for Web graphics is a separate **product** called ImageReady.) Picture Publisher earns an honorable mention in this category for its Web graphics...
...its unique natural-media painting capabilities.

In our illustration category, CorelDraw 8 was the only **product** capable of doing everything, making the software our current choice for creating **vector** graphics. CorelDraw earned above-average **scores** on all four of our illustration tasks: artistic illustration, technical illustration, print output, and Web...

26/3,K/23 (Item 13 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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02201908 SUPPLIER NUMBER: 20945095 (USE FORMAT 7 OR 9 FOR FULL TEXT)

IBM's INTELLIGENT FAMILY. (IBM's business intelligence initiative) (Company Business and Marketing)

Rennhackkamp, Martin

DBMS, v11, n9, p71(1)

August, 1998

ISSN: 1041-5173

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 3032

LINE COUNT: 00254

... features, user preference settings, a progress indicator, graphical representation of the mining base and mining **objects**, and a graphical **construction** mechanism for **composite objects**. It uses new and enhanced statistical functions, **algorithms**, and optimized mining techniques, such as factor analysis, **linear** regression, principal component analysis, ... statistics, bivariate statistics, and logistic regression. It contains a new neural net implementation of the **value** prediction method, and its mining techniques have been optimized to handle outliers, missing values, and...

...or DB2 for OS/390. On DB2 UDB, it uses parallelized versions of the mining **algorithms** for large-scale mining runs. The Intelligent Miner for Data supports English, French, Hungarian, Italian, Japanese, Korean, Portuguese, Russian, Spanish, and traditional Chinese data. In **addition** to providing a published API as a client interface, it also provides a server API.

FLASH is an advanced pattern-matching **algorithm** designed to **identify** similar, but not **identical**, data. It is useful in business applications such as insurance and finance, DNA and genetic...

26/3,K/24 (Item 14 from file: 275)

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02193344 SUPPLIER NUMBER: 20770371 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Intel Displays 740 Graphics Chip. (code-named Auburn) (Product Information)

Glaskowsky, Peter N.

Microprocessor Report, v12, n2, p1(1)

Feb 16, 1998

ISSN: 0899-9341

LANGUAGE: English

RECORD TYPE: Fulltext

WORD COUNT: 4152

LINE COUNT: 00318

... other vendors, however, and we believe the 740 will be be surpassed by many 1998 **products**.

The 740 supports the **commonly** used bilinear texture-filtering **algorithm**, **computing** a **weighted** average of four points sampled from a single texture map for each pixel to be...

...once for each triangle. Per-triangle MIP-mapping causes inconsistencies in the appearance of an **object** depending on its distance from the viewpoint; per-pixel MIP-mapping, as found on the...

...the 3D chip to average eight texture samples instead of four and can reduce pixel- **drawing** throughput. The extra effort **produces** better visual quality, eliminating seams between texture boundaries.

The 740 does not support trilinear filtering...

...computational demands of bilinear filtering. Known as level-of-detail (LOD) dithering, the new approach **adds** a pseudo-random offset to the texture-map selection criteria for each displayed pixel to...

26/3,K/25 (Item 15 from file: 275)

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02097656 SUPPLIER NUMBER: 19723612 (USE FORMAT 7 OR 9 FOR FULL TEXT)

The power brokers. (ten uninterruptible power supplies) (includes related articles on determining your UPS needs, glossary, Editors' Choice, performance tests, protecting individual PCs) (Hardware Review) (Evaluation)

Rosch, Winn L.

PC Magazine, v16, n16, p197(12)

Sep 23, 1997

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 8222 LINE COUNT: 00633

... lacks a voltage-reporting feature.

The Blackout test determined battery runtime, or how long a **unit** 's batteries supplied power to attached devices during a full power failure. All the UPSs...

...s PowerSure Interactive (6:20) and Para Systems' Minuteman XRT 2000 (7:20). The remaining **units** each provided over 10 minutes of battery power.

We employed our Brownout test suite to...

...battery power, three UPSs--the Deltec PowerRite Pro II/Exide NetUPS SE, the Para Systems **unit**, and the Tripp Lite Smart 2200 Net--each performed an additional second phase of power...

...high-voltage power twice before switching over to battery power. The nature of the online **units** we tested--the MGE Pulsar EX20 and the Toshiba 1400SE--means they perform continuous power conditioning.

To analyze the quality of the **units** ' output voltage, we also performed a test of their **total** harmonic distortion (THD), a **value** expressed as a percentage of pure sine-wave voltage output. A THD **score** of 0 percent is the equivalent of a perfect sine wave; anything larger indicates some...

...under 13 percent. The Minuteman XRT 2000 provided the best overall THD for line-interactive **units**: under 3 percent. Despite these findings, we noted no adverse effects on any of our...

...supply are naturally equipped to deal with such voltage pulses. Most vendors admit, however, that **linear** loads might be adversely affected by a higher THD.

We found no scientific studies to...

26/3,K/26 (Item 16 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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02071273 SUPPLIER NUMBER: 19488465 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Kodak releases image analyzer 1D app handles DNA, RNA. (Kodak Scientific Imaging Sytems' Kodak Digital Science ID Image Analysis 2.0) (Brief Article) (Product Announcement)

Kahney, Leander

MacWEEK, v11, n23, p27(2)

June 9, 1997

DOCUMENT TYPE: Brief Article Product Announcement ISSN: 0892-8118
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 282 LINE COUNT: 00025

... from Kodak's Digital Science cameras or Twain-compliant scanners. As well as calculating molecular **weights** and masses, the 1D software measures the mobility and intensity of each band in the...

...0 now automatically finds the lanes in an image, Kodak said, and includes a new **algorithm** for **identifying** Gaussian bands. Both **features** speed **analysis** and improve accuracy, Kodak said.

Version 2.0 also includes a new annotation feature that allows users to **add** comments to an **image**. Users can also crop **images** and **create** custom views.

Kodak said it has improved 1D's printing capabilities. The software will now...

26/3,K/27 (Item 17 from file: 275)

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02015645 SUPPLIER NUMBER: 18959008 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Seeing the big picture. (NEC's MultiSync P1150, Panasonic's PanaSync Pro P21 and ViewSonic's P815 21-inch monitors) (includes a related article on the performance tests) (Hardware Review) (Evaluation)

Mendelson, Edward
PC Magazine, v15, n22, p64(2)
Dec 17, 1996

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1179 LINE COUNT: 00095

... you can have a larger window on your data for about \$2,000. Though the **products** ' overall features are similar, each manufacturer has developed strengths that set it apart from the...

...work. The PanaSync was best at working with tiny detail--screens full of text, for **instance** --because of its crisp display. Color work showed up best on the MultiSync and PanaSync...

26/3,K/28 (Item 18 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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02011582 SUPPLIER NUMBER: 18842582 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A database perspective on GIS. (Geographic information systems) (Industry Trend or Event)

Spitzer, Tom
DBMS, v9, n12, p95(5)
Nov, 1996

ISSN: 1041-5173 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 3305 LINE COUNT: 00276

... are purchased in specific neighborhoods (based on automobile registration or store credit card information, for **instance**), it becomes easy to identify new retail sites with a high confidence in their success
...

...map are stored in a database. There are two fundamental digital map formats, raster and **vector** . Raster maps divide the map area into squares of equal size and assign each square a **value** based on the attribute that is the subject of the map. A raster map of rivers and streams would typically assign a **value** of one to a square in which such a watercourse occurs and a zero to...

...that have extent, such as types of crops or soils or population concentrations. In a **vector** map, every feature or zone is defined as a point, a line or arc connecting...

...two points and encloses an area. Each point on the map is identified by its **coordinates** , and each such graphic feature is considered a data point and can have attributes associated with it.

Because **vector** files require more graphic horsepower and map maintenance, they have largely been the format of choice for engineering-oriented **products** . Desktop PC **products** used primarily for business analysis have employed the raster format, which requires less maintenance as...

...digital maps. Most engineering maps have been traced from the analog versions. Digitizing maps into **vector** format has kept a lot of people busy tracing over a digitizing table during the imperfect process. As a result, many of the **products** we will discuss later include sophisticated error correcting utilities.

Many GIS applications build on an...

...described as remote sensing because it uses a wider spectrum of the electromagnetic spectrum to **create** a rich variety of digital **images** .

Another technology developed for defense purposes, Global Positioning Satellites (GPS) provide a way to specify...

26/3,K/29 (Item 19 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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02004605 SUPPLIER NUMBER: 18864273 (USE FORMAT 7 OR 9 FOR FULL TEXT)

A look inside bitmap files: how the most common image file formats store pictures. (PC Tech/Tutor) (Technology Tutorial) (Column) (Tutorial)

Prosise, Jeff

PC Magazine, v15, n21, p321(3)

Dec 3, 1996

DOCUMENT TYPE: Column Tutorial ISSN: 0888-8507 LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2896 LINE COUNT: 00219

... 1 byte (8 bits) in the bitmap data portion of the file. The pixel's **value** isn't an RGB color **value** ; it's an index into the file's color table. So if the first RGB color **value** in a .BMP file's color table is R/G/B=255/0/0, then a pixel **value** of 0 in the bitmap translates to bright red. Pixel values are stored in left...

...directly. The internal storage format of the file's individual sections can vary, too. For **instance** , bitmap data in some 16- and 256-color .BMP files is compressed using an RLE **algorithm** that replaces runs of identical pixels in the image with tokens specifying the number of...

26/3,K/30 (Item 20 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01862628 SUPPLIER NUMBER: 17581438 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Future database technologies now. (visual query systems) (Technology
Information)

Frank, Maurice

DBMS, v8, n12, p52(5)

Nov, 1995

ISSN: 1041-5173

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3774 LINE COUNT: 00305

... responsible for storing the data vector in a persistent database.
The DBMS could be relational, **object**-oriented, or whatever. Illustra's
Visual Intelligence System includes a dialog to select multiple files...

...inserted in batch mode. (See Figure 3, page 56.)

Virage must compute the image feature **vector** only once (when the
image is inserted into the database). According to Charles "Chuck" E...

...and the image size does not affect the processing time very much. The
image feature **vector** consumes between 1KB and 2KB, regardless of the size
of the original image, which could...

...an example of the image they want to find. The drawing tool also lets
users **add** color to the image sample. You can also drag existing images
onto the sketch pad instead of relying on freehand drawing. Imported images
can also be modified as necessary.

In **addition** to drawing a sample image, users can use a mouse to
carve out a subset...

...an image and tell the Virage query engine to find other images that
contain similar **objects**. For example, a photograph may have grass
surrounding a flower, but only the flower is relevant to the search. Users
can also influence the query engine by manipulating **weights** assigned to
color, texture, shape, and composition. A **weight** of zero indicates that
the feature is unimportant, while a **weight** of 1.0 means that it is highly
significant.

The Virage engine begins its search by computing primitives for the
query parameters, so it can compare this **vector** to others in the
database. Unlike SQL-based queries, which seek exact or wildcard matches...

...Virage return results as thumbnail images ranked according to a measure
of similarity. This similarity **score** ranges from 0.0 to 100.0, and it
displays below the thumbnail. The most...

...result set and telling Virage to find all images similar to it (along
with any **weights** the user wishes to assign to image features).

Alternatively, users could begin the query process...

26/3,K/31 (Item 21 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01840463 SUPPLIER NUMBER: 17469597 (USE FORMAT 7 OR 9 FOR FULL TEXT)
SAS System 6.10 brings stat muscle to the Mac. (SAS Institute's statistics
software) (Software Review) (Evaluation)

Custer, Linda

MacWEEK, v9, n38, p86(2)

Sep 25, 1995

DOCUMENT TYPE: Evaluation

ISSN: 0892-8118

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2048 LINE COUNT: 00183

... of regression analysis and model fitting with no knowledge of the SAS language. SAS/Insight **adds** interactive data entry and visualization tools that let you explore data for previously undiscovered relationships ...

...become an excellent starting point for custom development.

By using SAS/IML routines, problems requiring **vector** and matrix manipulations and **linear** programming are solvable. SAS/QC contains **code** to determine and improve manufacturing-process capability, design research experiments and sampling plans for lot...

...time constraints. SAS/ETS provides support for financial analysis, including a full set of time- **value** -of-money and economic forecasting procedures.

SAS/Connect manages client-server sessions, with the Mac...

26/3,K/32 (Item 22 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01817081 SUPPLIER NUMBER: 17369264 (USE FORMAT 7 OR 9 FOR FULL TEXT)

AFP and ImagePlus' MO:DCA. (Advanced Function Printing; Mixed Object: Document Content Architecture)

McCalpin, William J.

Enterprise Systems Journal, v10, n6, p56(4)

June, 1995

ISSN: 1053-6566

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2084 LINE COUNT: 00167

... own AFP and could have used the perfectly legal negative parameters.

There are only 17 **code** pages (**objects** that map characters in fonts to EBCDIC or ASCII values) available to the IWPM/2 software. The good news is that these 17 **code** pages **match** the most **commonly** used **code** pages from the AFP world. The bad news is that a custom **code** page in the AFP world is not supported on the OS/2 workstation, making it difficult to reproduce on the display what you would see on the printed page.

Vector graphics (GOCAs) and bar **codes** are parsed correctly but are not displayed. This means users can store these **objects** within documents in ImagePlus but cannot see them when displayed by the IWPM/2.

Finally...

26/3,K/33 (Item 23 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01793654 SUPPLIER NUMBER: 17016883 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Chips: C-Cube introduces high quality videoconferencing codec; chip pair improves video quality & lowers cost of videoconferencing systems.

(C-Cube Microsystems Inc's CLM4200 H.261 Video Codec) (Product Announcement)

EDGE, on & about AT&T, v10, n353, p15(1)

May 1, 1995

DOCUMENT TYPE: Product Announcement

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT

WORD COUNT: 729 LINE COUNT: 00065

Levine, Ron
DEC Professional, v11, n7, p88(5)
July, 1992
ISSN: 0744-9216 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1851 LINE COUNT: 00159

... a minimal level of service. List-price hardware warranty support lets customers return field-replaceable **units** (FRU) to Digital for up to 1 year. The customer is responsible for trouble-shooting...

...software warranty support guarantees that Digital-developed software packages will conform to the applicable Software **Product** Description (SPD). Digital will remedy any nonconformance when it is reported during the warranty period, which is 30 days. Third-party software **products** sold by Digital are covered under warranty according to individual terms specified in the SPD...

...year of operation, such as initial media and documentation, software installation, training, and onsite orientation. **Value -Added** Implementation Services -- This recently announced premium service is designed for those who run business...

...components or software. With this service option, Digital acts as the prime service vendor and **coordinates** staging, connectivity, setup and verification for all equipment and software from Digital and other vendors ...

26/3,K/46 (Item 36 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01519586 SUPPLIER NUMBER: 12347399 (USE FORMAT 7 OR 9 FOR FULL TEXT)
OCR gets you from there to here. (includes related articles on OCR software features, Editors' Choice, the product testing procedures and OCR software interfaces) (Software Review) (overview of nine optical character recognition software evaluations) (Evaluation)

Jones, Mitt; Ehrenman, Gayle C.; Belrine, Gary; Mendelson, Edward; Gunn, Angela

PC Magazine, v11, n13, p267(23)

July, 1992

DOCUMENT TYPE: Evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3981 LINE COUNT: 00313

... for each new font it must recognize, a laborious process that involves entering the correct **value** of each character image as the program presents them on the screen.

Therefore, our foremost...

...range of fonts without training. Most of the packages reviewed here utilize a technique called **feature extraction**, which **matches** an **image** to the appropriate character by looking for certain qualities of each character--the complete circle of the letter o, for example. Whatever the basic **algorithms**, each vendor **adds** additional means of improving accuracy, including possibilities such as context checking through use of a ...

...scanning may prove imperative, as PC Magazine Labs' performance tests clearly show. OmniPage Professional, for **instance**, made 59 errors on

WORD COUNT: 2030 LINE COUNT: 00161

... It provides you with a visual file selector that looks into each CorelDraw 2.0 **image** for a small mono bitmap file **created** just for Mosaic's use. Mousing your way down the file list gives you a...

...that, while they won't run Harvard Graphics off the dealer's shelves, add considerable **value** for business users who otherwise might have to mess about with two packages instead of...

26/3,K/56 (Item 46 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01376701 SUPPLIER NUMBER: 08761772 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Codec sends wideband video over phone lines; chip set compresses images by 400:1 for TV transmission. (SGS-Thomson Microelectronics' Videocodec chip) (product announcement)

Leonard, Milt

Electronic Design, v38, n12, p129(2)

June 28, 1990

DOCUMENT TYPE: product announcement ISSN: 0013-4872 LANGUAGE:

ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 1101 LINE COUNT: 00089

... IMSA121 to implement both a loop filter and some matrix transposition functions required by new **generation**, motion-compensated moving- **picture** codecs. For example, all DCT/IDCT and filter functions required for a low-cost 300...

...chip set, the STV3220 motion-estimation circuit, is a two-dimensional systolic array of 256 **identical** processors. This component **compares** the details of a current frame with those of the previous frame and generates **vectors** representing the motion of any changing details. Because successive frames are likely to represent many...

...represented by two elements. One element is data representing unchanging details of each frame, and **vectors** describing the shift in relative position of changing details. Consequently, the pixel data flow required...

...compression process devised by SGS-Thomson Microelectronics is divided into two components: transform or still- **picture** encoding/decoding, and motion **estimation**. Still- **picture** encoder functions include a-d conversion, pixel-block segmentation, DCT encoding, quantization (the **weighting** of coefficients), and data packing for example, Huffman-type encoding and cyclic redundancy checking). The...

...SMALL COEFFICIENT

The IMSA121 performs a two-dimensional DCT of each pixel-block input for **spatial** information conversion into frequencies. This enables the most-significant information in any pixel block to...

26/3,K/57 (Item 47 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01372437 SUPPLIER NUMBER: 09452461 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Trellis: turning designs into programs. (the Trellis integrated programming language and object-oriented development environment from DEC)

Kilian, Michael

Communications of the ACM, v33, n9, p65(3)

Sept, 1990

ISSN: 0001-0782

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2294

LINE COUNT: 00188

... attain the goals outlined above.

Modeling Applications in Trellis

The first step in designing an **object** -oriented program is identifying the **objects** in the application and how they behave. In Trellis, everything is some kind of **object**. Integers are **objects**. Points on the screen are **objects**. Every **object** has a type (which is also an **object**) that describes the behavior of the **object**. For example, the Integer type specifies behaviors such as addition and subtraction. **Objects** are explicitly created in a program workspace. The workspace can be stored, allowing **objects** to persist between Trellis sessions. **Objects** cannot be explicitly deleted. Instead, Trellis automatically removes unneeded **objects** from the workspace.

New types of **objects** are introduced in the Trellis language with a type module. A type module contains operations that define the behavior of the new type of **object**, and fields that hold information about the **object**. For example, the type module Bank...

...optionally an implementation. The specification includes the types of an operation's arguments, its return **value**, and exceptions it might raise. A field specifies the type of **object** it contains. This type information is used by the Trellis compiler to verify that the right kinds of **objects** are being manipulated at the right time. The programmer can use powerful type constructors, including...

...parameterized type is a more generic form of a type often associated with collections of **objects**. For **instance**, instead of specifying Set... needed (e.g., Set [Integer], Set [String]). A type union specifies that several types of **objects** might occur as the **value** of some expression. For example, a parameter might be declared to be a String or an Integer. A type case can perform different actions depending on the type of an **object**. A type case might add one to a variable if it is an Integer, or...

...acyclic graph called the type hierarchy. At the top of the hierarchy is the type **Object** which **determines** the **common** behavior of all **objects** (such as having a type). Determining the arrangement of an application's types in the hierarchy is one of the early steps in designing an **object** -oriented program. In the banking example, a Checking...

...Account, and **add** new operations for overdraft protection and checking fees. Besides adding new operations, types can change...

...a set or a sequence can be substituted where a Collection has been specified.

Dividing **objects** into different types is not the only way to organize an **object** -oriented program. **Objects** can sometimes be divided into coordinated activities, as well. For example, one **object** may produce results that another **object** consumes. Trellis provides a multiple activity system where any operation invocation can execute within its...

...as an independent activity. Any number of activities may execute concurrently. All activities share the **objects** in the program workspace, making cooperative activities (such as the producer-consumer example) simple to...

26/3,K/58 (Item 48 from file: 275)
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01350899 SUPPLIER NUMBER: 08166400 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Business statistics. (guide to statistical software for Macintosh) (includes related 'Report Cards' on individual packages) (buyers guide)
Levine, Minna
MacUser, v6, n4, p114(13)
April, 1990
DOCUMENT TYPE: buyers guide ISSN: 0884-0997 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2231 LINE COUNT: 00184

... the additional types of regression models they support. JMP can compute logistic regression models (for **instance** , those with binary- or ordinal-dependent variables and those predicting an event's occurrence). StatView and Exstatix can perform regression only on nonlinear models that have been **linearized** , and Data Desk doesn't support additional regression models at all.

Evaluating Group Differences

New-product testing and ad-campaign **evaluations** share a **common** type of research question: Are the observed increases in sales or **scores** , after the change in context, real and reliable, or are they just the result of...SuperANOVA - see "Fifth Annual MacUser Editors' Choice Awards," March '90) require a sophisticated understanding of **linear** -modeling approaches to ANOVAs, something that is often left out of basic statistics courses.

Data...

26/3,K/59 (Item 49 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01346078 SUPPLIER NUMBER: 08000740 (USE FORMAT 7 OR 9 FOR FULL TEXT)
KaleidaGraph; if you need a dedicated graphing and analysis package, KaleidaGraph is an excellent choice. (Software Review) (evaluation)
Steinberg, Jeffrey A.
MacUser, v6, n2, p71(1)
Feb, 1990
DOCUMENT TYPE: evaluation ISSN: 0884-0997 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 599 LINE COUNT: 00046

... to basic math operators, the Formula Entry window allows algebraic-manipulation functions such as absolute **value** , log, and sine, as well as polynomial-, spline-, **weighted** -, and exponential-curve fitting.

Generating a graph from the foremost data window is as simple...

...output is a set of plot tools that allows the addition of lines and labels, **object** erasing, moving and resizing of the graph, **coordinate identification** , and a zoom-in **feature** . With the Axis Options item on the Plot menu, users can change the scale of the x- or y- axis from **linear** to log, the number of major and minor tick marks, the color of various **objects** and their fill pattern, and the minimum and maximum values to be plotted. The latest...

26/3,K/60 (Item 50 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01345237 SUPPLIER NUMBER: 08007116 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Of programs, philosophy, and phoolishness. (invention of desktop publishing)

Kyle, Jim
Computer Language, v7, n1, p71(5)
Jan, 1990
ISSN: 0749-2839 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2178 LINE COUNT: 00163

... arbitrary width equal to te most common lowercase letters.
CPUs can calculate
We calculated the **value** ; conventional wisdom at the time simply
tallied the number of spaces required, then tossed in...

...WordStar documents are examples of that technique's results. But having
a mainframe with machine **multiplication** and division at our disposal, we
used it. That must have been Walt's idea...

...integer quotient and the remainder from that calculation. The quotient
gave us the width in **units** for each interword space, and the remainder
told us how many **units** of extra padding were required to achieve perfect
justification.

We handled the difference between fixed...

26/3,K/61 (Item 51 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01304027 SUPPLIER NUMBER: 07456858 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Xanadu. (aims of global text-server project)
RELease 1.0, v89, n6, p3(5)
July 13, 1989
ISSN: 1047-935X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2243 LINE COUNT: 00173

... but not so close that they visit all the time."
The back-end
That first **product** will be a back-end for storing and managing
chunks of data -- text, image or...

...defined links and links built by the system between versions or items
split by the **addition** of new data. Because links run from point to point
rather than from chunk to...

...although it may be archived. Things are simply added and linked to
earlier versions. The **algorithms** by which this is accomplished are
complex, clever -- and secret. Stiegler, an aerospace systems designer
hired after the Autodesk acquisition, says he's confident the **algorithms**
will scale up - -but he's less sure of what the performance of any size...
...can only cite the evident faith of the folks from Autodesk as testimony
to its **value** .

Xanadu allows the user (or application) to define arbitrary link
types, such as citation, cross-reference, endorsement, refutation, examples
and problemanswer, as well as node types (book, document, etc.). In
addition , frontends can **add** executable routines, such as "move-to,"

"insert," "replace," and "execute," which would execute a subroutine...

...could be to display a particular kind of data.) Chunks could also contain -- or be -- **objects** .

Each time a data chunk is updated, Xanadu retains the previous version (to the extent...

...stored, but the effect for users is the same. This is the basis of a **comparison feature** which works, of course, only to the extent that the user works with an application...

26/3,K/62 (Item 52 from file: 275)
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01304026 SUPPLIER NUMBER: 07456826 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The wonderful world of text. (overview of special issue on text software)
RELease 1.0, v89, n6, p1(3)
July 13, 1989
ISSN: 1047-935X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 12854 LINE COUNT: 01002

... although it may be archived. Things are simply added and linked to earlier versions.

The **algorithms** by which this is accomplished are complex, clever -- and secret. Stiegler, an aerospace systems designer hired after the Autodesk acquisition, says he's confident the **algorithms** will scale up -- but he's less sure of what the performance of any size...

...can only cite the evident faith of the folks from Autodesk as testimony to its **value** .

Xanadu allows the user (or application) to define arbitrary link types, such as citation, cross-reference, endorsement, refutation, examples and problemanswer, as well as node types (book, document, etc.). In **addition** , frontends can **add** executable routines, such as "move-to," "insert," "replace," and "execute," which would execute a subroutine...
...could be to display a particular kind of data.) Chunks could also contain -- or be -- **objects** .

Each time a data chunk is updated, Xanadu retains the previous version (to the extent...

...stored, but the effect for users is the same. This is the basis of a **comparison feature** which works, of course, only to the extent that the user works with an application...

26/3,K/63 (Item 53 from file: 275)
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01300524 SUPPLIER NUMBER: 07361182 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Chips try teaching computers to speak, listen. (1989 IEEE International Conference on Acoustics, Speech and Signal Processing)
Gunn, Lisa
Electronic Design, v37, n11, p33(3)
May 25, 1989
ISSN: 0013-4872 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1768 LINE COUNT: 00148

26/3,K/65 (Item 55 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01295752 SUPPLIER NUMBER: 07127408 (USE FORMAT 7 OR 9 FOR FULL TEXT)
High-powered CAD comes to the Mac. (computer-aided design) (includes related article on Macintosh news)
Potter, Caren D.
Computer-Aided Engineering, v8, n1, p47(3)
Jan, 1989
ISSN: 0733-3536 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2006 LINE COUNT: 00152

... features like user-selectable associative or nonassociative dimensioning, cross hatch patterns, and variable line widths. Add to that a user programming language and you've got a good, all-around engineering ...

...from buying a Mac before now, their objections have been met by a program called **Vector** from MicroConcepts, Fort Wayne IN. In a beta version when we saw it at Autofact, **Vector** is scheduled to be shipping by the time this appears in print. Also called an Engineering Applications Generator, **Vector** is an **object**-oriented programming tool that its developers claim will cut up to 500% off the time...

...according to Rick McElhinney, MicroConcepts president. As an example of what can be done with **Vector**, the company includes **VectorCAD**, a full 3D CAD program, in the purchase price. Similar to the way dBase includes some sample applications, **Vector** comes with **VectorCAD**, which can be modified to create other engineering applications, or used as is.

In addition to end user sales, MicroConcepts will be licensing **Vector** to developers. Since it provides many built-in functions, including math and geometric primitives, interfacing tools, and editors for icons, text, etc., **Vector** can be used to develop software for tasks like finite-element analysis, subdivision design, electronics simulation, and parametric applications. A spreadsheet feature called **VectorSheet** is also part of the package. This lets a user view mathematical formulas and their relationships to a model. If a **value** in **VectorSheet** is changed, the model will be automatically updated. **Vector** also provides support for transfer of files to and from other CAD systems via standards...

26/3,K/66 (Item 56 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01294067 SUPPLIER NUMBER: 07142088 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A sweet profusion of 12-bit ADCs. (analog-to-digital converters) (Technology Briefing) (technical)
Goodenough, Frank
Electronic Design, v37, n4, p16(1)
Feb 23, 1989
DOCUMENT TYPE: technical ISSN: 0013-4872 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 590 LINE COUNT: 00047

... processing applications. All will be one-chip devices. These converters from Analog Devices Inc. (ADI), **Linear** Technology Corp. (LTC), Maxim, National, and Siemens offer significant advantages of performance, **features**, and price, **compared** with currently available devices.

This sudden abundance of one-chip converters is in sharp contrast...

...have appeared in the past three years from Analog Devices, Crystal, Honeywell, Maxim, PMI, Micro **Linear**, and Micro Power Systems were, however, vanguards of the ADCs to come. They represent a...

...CMOS and biCMOS processes, switched capacitors in lieu of resistors, automatic calibration, and multistep and **algorithmic** architectures. The new converters advance this technology even further.

With the exception of several multistep, recursive subranging converters from Analog Devices, all the **units** employ a conventional SAR architectures. Binary- **weighted** thin-film resistor or capacitor networks form the adc's d-a converter segment. While...

...have stuck with resistor DACs, the others have moved to switched-capacitor techniques for current **summing**. The switch has made it possible for them to guarantee a maximum **total** unadjusted error (TUE) over temperature of [plus-or-minus]1/2 LSB at 12 bits. TUE includes not just **linearity**, but gain and offset errors as well. Siemens and National achieve TUE through automatic calibration...

...converters' gain and offset errors can run 5 to 10 LSBs over temperature. Although these **units** show a greater temperature drift, they usually carry their own voltage references. The switched-capacitor **units** do not.

Throughput rates run from 50 to 200 kHz, with the Maxim and ADI **units** holding the high ground. These speeds, coupled with sampling capability on all the converters (except...
...a miniDIP), and an 8-word FIFO memory digital I/O. Finally, the kicker: Some **unit** prices are running below \$20 in hundreds.

26/3,K/67 (Item 57 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01255364 SUPPLIER NUMBER: 07037849 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Pattern matching: the Gestalt approach. (description and applications of pattern recognition algorithm) (technical)

Ratcliff, John W.; Metzener, David E.

Dr. Dobb's Journal of Software Tools, v13, n7, p46(10)

July, 1988

DOCUMENT TYPE: technical LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT;
ABSTRACT

WORD COUNT: 2136 LINE COUNT: 00164

... Gestalt is a word that describes how people can recognize a pattern as a functional **unit** that has properties not derivable by summation of its parts. For example, a person can...

...two one-dimensional patterns are. Since text strings are one dimensional, this algorithm returns a **value** that you can use as a confidence factor, or percentage, showing how alike any two strings are.

Because this pattern-matching **algorithm** can recognize matches in substrings quickly and easily, there are many applications for it. For example, a compiler using this **algorithm** would be able to determine what variable, keyword, or procedure name the programmer meant, even...

...like SYMPHONY. Text adventure games with their powerful parsers are an ideal application for this **algorithm**: the games could make broad assumptions in assimilating user input.

The Ratcliff/Obershelp pattern-matching **algorithm** was developed by

John W. Ratcliff and John A. Obershelp in 1983 to address concerns...

...educational software. Often, educational software has consisted of multiple-choice questions only because the existing **algorithms** required an exact character-for-character match. The **algorithm** presented in this article is both forgiving and understanding of simple typing mistakes, and allows intelligent responses to erroneous input. To date, this **algorithm** has been implemented in a commercial spelling checker, a database search program, and a compiler.

Adding this **algorithm** to a compiler had some dramatic results. When this **algorithm** was implemented in a primitive C compiler, the compiler was able to make accurate assumptions...

...go so far as to ask the programmer if it should automatically correct the source **code** as well. On the occasions when the compiler made a false assumption, it almost always...

...still warned and knows not to run the executable that the compiler produced.

How the **Algorithm** Works

The best way to describe the Ratcliff/Obershelp pattern-matching **algorithm**, in using conventional computer terminology, is as a wild-card search that doesn't require wild cards. Instead, the **algorithm** creates its own wildcards, based on the closest matches found between the two strings. Specifically, the **algorithm** works by examining two strings passed to it and locating the largest group of characters in common. The **algorithm** uses this group of characters as an anchor between the two strings. The **algorithm** then places any group of characters found to the left or the right of this...

...repeated for all substrings on the stack until there is nothing left to examine. The **algorithm** calculates the **score** returned as twice the number of characters found in common divided by the **total** number of characters in the two strings; the **score** is returned as an integer, reflecting a percentage match.

For example, suppose you want to...

...but then are immediately removed and determined to contain no character in common. Next, the **algorithm** pulls 'Pennsy' and 'Penci' off of the stack. The largest common substring found is 'Pen.' The **algorithm** advances the **score** by 6 so that it is now 16. There is nothing to the left of...

...right are the substrings 'nsy' and 'ci,' which are pushed onto the stack. When the **algorithm** pulls off 'nsy' and 'ci' next, it finds no characters in common. The stack is now empty and the **algorithm** is ready to return the similarity **value** found. There was a **score** of 16 out of a **total** of 24. This result means that the two strings were 67 percent alike.

Inside the **Code**

Now that you know how the **algorithm** works, you're ready to look at the **code**. This article includes an assembly language routine that is ... page 68). This assembly language routine has been optimized using techniques such as register optimization, **algorithmic** analysis, branch optimization, and instruction-cycle counts. Therefore, you may very well find this routine...

...variables in this routine are declared as static, rather than dynamic, to make the source **code** easier to follow.

It should be clear from the earlier discussion that the time-critical portion of the **code** is in the section that determines the maximum number

of characters in common between two...
...maxchars occurs you can shorten the search by the difference between the new machars and **add** that **value** . The reason for this is simply that once you have found, for example, a five...

26/3,K/68 (Item 58 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01251768 SUPPLIER NUMBER: 06850231 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Smart memories beat bottleneck blues. (Special section: imaging and graphics) (includes related article on intelligent alternatives such as digital approaches)

Morton, Steven G.

ESD: The Electronic System Design Magazine, v18, n7, p70(4)

July, 1988

ISSN: 0893-2565

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2197 LINE COUNT: 00172

... using the circuit shown in Figure 3. Since associative memories repetitively multiply state vectors by **weight** -matrices, an intelligent memory block can digitally store the **weight** -matrix. In such systems, a stimulus vector is input and multiplied by the matrix, and the resulting output vector is fed back into the block.

An optional **vector** filter chip has been added in series with the output of the intelligent memory block. The **vector** filter chip is a programmable, multichannel filter that temporally filters each element of the output **vector** from the intelligent memory block. This filtering controls the system dynamics, analogous to the way...

...of cells (see Intelligent Alternatives, p. 72), the sequence of layers may represent data for **feature extraction** and pattern **matching** in an **image** processing problem. In such a system, features of the image would be stored in the...

...speed, rather than simultaneously. In nine chips, where 8-bit precision of each of the **weights** and **vectors** is assumed, 1.25 billion connections (**multiply** / **adds**) per block can be performed. (Much higher performance can be realized by building each layer...

...sometimes wrong.

Time-division multiplex switching of some or all of the elements of the **vectors** can provide more complex interconnections between blocks, including feedback. Nonlinear operations may also be provided...

26/3,K/69 (Item 59 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01251271 SUPPLIER NUMBER: 06821729 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Holonetics perfecting inspection system. (Global Holonetics Corp.)

Hecht, Jeff

Lasers & Optronics, v7, n6, p46(3)

June, 1988

ISSN: 0892-9947

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 818 LINE COUNT: 00064

... frame, from a standard video camera that is timed to record an image as an **object** goes by on the production line. The video input

modulates a transmissive 256X256-element spatial...

...in their prototype.

The system is "trained" by giving it samples of good and bad **objects**. If it is to inspect candy bars coming off a production line, the bad **objects** would include cracked and other defective bars, and the good **objects** would be intact bars. Software **analyzes** the various **feature** classes and finds which ones offer the best discrimination. The programs can test samples just...

...the plastic tray. Discrimination relies on comparison of the values of sampled features for an **object** with means established from a training set. **Objects** are acceptable if all the sample values are within two standard deviations of the mean **value** for the training set, but otherwise are rejected. The accompanying figure shows one such comparison...

26/3,K/70 (Item 60 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01102755 SUPPLIER NUMBER: 00539256 (USE FORMAT 7 OR 9 FOR FULL TEXT)

APL: A Language for Modern Times.

Rubinstein, M.; Lewis, S.D.

PC Magazine, v3, n6, p229-239

April 3, 1984

DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 5177 LINE COUNT: 00385

... comparable BASIC program.

The advantages of APL tabular processing are clear: faster program development, enhanced **code** readability, and reduced interpretive burden. In fact, APL's tabular processing, together with STSC's...

...calculator, APL beats any other programming language. For example, a quick calculation of the present **value** of a series of annual cash flows assigned to X, with the interest or discount...

26/3,K/71 (Item 61 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01042726 SUPPLIER NUMBER: 00581987

The PF474 - A Coprocessor for String Comparison.

Rosenthal, S.

Byte, v9, n12, p247-248

Dec., 1984

DOCUMENT TYPE: evaluation ISSN: 0360-5280 LANGUAGE: ENGLISH

RECORD TYPE: ABSTRACT

...ABSTRACT: several thousand string comparisons a second, and it compiles a list of the sixteen best **matches**. The PF474 **features** two semi-independent subsections: a proximity computer and a ranker, a DMA controller to load strings, an **algorithm** which produces a 32-bit fraction that expresses closeness of strings, proximity measurement customization by assigning **weight**, compensation, and bias to the symbols used by the strings, IBM PC and Apple II...

...test programs, a monitor-debug program, a simple data base program, and applications in OEM **products** and data base searching. Included is a block diagram of the **unit** .

26/3,K/72 (Item 1 from file: 674)

DIALOG(R)File 674:Computer News Fulltext
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098041

PKI: Build, buy or bust?

Options abound for digital certificates, but so do security concerns and design headaches.

Byline: By David Newman, Network World Global Test Alliance

Journal: Network World Page Number: 50

Publication Date: December 10, 2001

Word Count: 2117 Line Count: 202

Text:

...of a black art, forcing network professionals to wade through a thicket of acronyms and **algorithms** . It's little wonder many companies opt to outsource the entire process. Others, mistrustful of...

... at certificate path construction. It's important to note that these are design and not **product** issues. Any commercial certificate authority **product** will work in either design. The PKI market includes software and equipment vendors and outsourced...

... bureaus. Software and equipment vendors offer tools such as certificate authorities, smart cards and encryption **algorithms** . Major vendors in this area include Baltimore Technologies, Entrust, RSA Security and VeriSign.Service bureaus...

... 5 consulting firms and numerous ISPs offer the same tools as equipment vendors, along with **value - adds** such as integration. From the buy sideService bureaus will integrate PKI into just about anything...strong as the weakest component. If the storage medium is vulnerable to viruses, other malicious **code** , or even physical attacks, the certificate is vulnerable, too.In some states, the holder of...

...to issue a security bulletin stating that the vulnerability could affect "all customers using Microsoft **products** ." VeriSign determined the breach occurred because humans did insufficient checking on the validity of the...

... Schneier says. The X.509 format allows the use of many other attributes besides the " **Common Name**" for **identifying** a certificate holder, but this practice assumes the certificate user also knows to use those...

26/3,K/73 (Item 2 from file: 674)

DIALOG(R)File 674:Computer News Fulltext
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093050

Script: IPv6 audio primer

Journal: Network World

Publication Date: April 16, 2001

Word Count: 1027 Line Count: 94

Text:

... all because there is no way to prioritize traffic flow. Administrators find it difficult to **add**, delete and change accounts on large IP-based networks. Enter IPv6. Probably the biggest and...

... keep their existing eight-digit designations, but Internet Service Providers will get a three-digit **code** that will remain unique to those vendors. Other designations will be reserved for local use...

... address of a local router, needed to connect to the Internet or corporate IP backbone. **Analysts** at Forrester Research say that this **feature** alone will eliminate so much manual configuration minutia from users' lives it will pay back...

... that implementations must, at the very least, have packet-level encryption and a secure encryption **algorithm**. For many, this means using IPSEC technology. Early in the IPv6 development process, export rules...

... addresses as new devices come on line. Still, a number of vendors are working on **products** implementing the new protocol. Sun, IBM, Digital and Microsoft already offer IPv6-based **products**, while Cisco has pledged to do so. NTT is offering commercial-**grade** IPv6 service, while NASA and a number of universities across the country have experience running...IPv4 does not support, you'll probably want to start bugging your vendors for IPv6 **products**.

26/3,K/74 (Item 3 from file: 674)

DIALOG(R)File 674:Computer News Fulltext

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084286

NetWare Cluster Services - two choices

Should you roll your own or buy a preconfigured cluster from a hardware vendor?

Byline: By James E. Gaskin, Network World Test Alliance

Journal: Network World Page Number: 77

Publication Date: May 22, 2000

Word Count: 1944 Line Count: 183

Text:

... installation honors after you complete the Novell-recommended upgrade of the network client software and **add** a new version of ConsoleOne, NetWare's Java-based management utility. Clustering setup took less...

... one hour. After rebooting the servers, each looked for others in the cluster and started **coordinated** communication immediately. The ProLiant Cluster for NetWare 5.1 from Compaq skipped these software installation...

...as various NetWare volumes and extra Compaq utilities such as SmartStart and Compaq Management Agents **add** to the ease of management. The Compaq SmartStart utility handles many hardware details during installation...

... showing each server in the cluster and a few other details. ConsoleOne includes a cluster **object** and a screen showing cluster-specific information. The ConsoleOne cluster policies page is plain but...it easier to migrate applications from one server to another without client interruption. Need to **add** a new server to the cluster with more horsepower, or migrate cluster applications to the...

... help tremendously. It's hard to tell where the NetWare services stop and the Compaq **value**-added services begin on the ProLiant Cluster. Each

rack-mounted server pulls out on rails...

... the hardware. Quibbles and bits Perhaps it 's just early in the NetWare Cluster Services **product** cycle, but the lack of utility support and templates for non-Novell applications are troublesome. NetWare installation and management, even for a relatively small **addition** like the 1M byte of Cluster Services files on the various NetWare servers, still bounced around between ConsoleOne, Net-Ware Administrator and NWCONFIG. These three utilities offer competing and **overlapping features** on one hand, with painful restrictions on the other. Additionally, NetWare 5.1 makes an...

26/3,K/75 (Item 4 from file: 674)

DIALOG(R)File 674:Computer News Fulltext

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082670

SLA enforcement tools to the rescue

Visual UpTime wins Blue Ribbon Award for accuracy and reporting features.

Byline: BARRY NANCE, NETWORK WORLD TEST ALLIANCE

Journal: Network World Page Number: 69

Publication Date: April 03, 2000

Word Count: 3074 Line Count: 299

Text:

... metrics. To help you find the best tool, we invited vendors to submit SLA monitoring **products** for this review. We specified that a tool must be able to monitor WAN links in a heterogeneous environment across a variety of vendors' hardware devices. The **product** has to work independently of any underlying systems management framework, although integration with that framework...

... software. Paradyne shipped its OpenLane 5.1 software and two FrameSaver SLV DSU/CSUs. In **addition**, NetScout provided us with two NetScout probes and NetScout Manager Plus software. We used the probes in our tests of the other **products** and along the way examined the NetScout Manager Plus reports to verify the current configuration and health of our network. We didn't **grade** NetScout Manager Plus because it's not an SLA monitoring tool but rather a general...

... key SLA-compliance criteria, such as frame delivery (the ratio of successfully delivered frames to **total** frames offered, excluding traffic offered above the excess burst rate); elapsed time for a test...

... own use by simply invoking standard query tools to mine Visual UpTime's database. The **product** also offers full packet capture and protocol decode as well as Visual Burst Advisor, a...frames for the Visual DSU/CSUs. When used in pairs, the FrameSaver DSU/CSUs intelligently **coordinate** with each other to measure and record SLA-significant data such as latency and dropped packets. The **units** monitor the active frame relay link, out of band, to ensure that what's sent...

... Plus. Additionally, we were able to load SLA performance parameters directly into the FrameSaver SLV **units**. With OpenLane, we viewed the DSU/CSUs' transmitted alerts for each specific WAN link. With...

... aware PVC statistics for both directions of the link, which OpenLane also displayed. The FrameSaver **unit** includes frame relay diagnostic tools, such as a nondisruptive PVC loopback for testing and verifying DLCI configurations. The **unit** offered a direct interface to Concord's Network

Health software package, which let us combine these reviewed **products** in yet more interesting ways. For storing network device, threshold and statistical information, Paradyne bundles...

... flexible and useful reports on network activity, Concord's Network Health is for you. The **product** excelled at discovering all devices on our network, and its frame relay module efficiently and...

... Each report provided generalized and specific information about the WAN links. Shaping up with WiseWANIn **addition** to monitoring WAN links, NetReality's WiseWAN software and WiseWAN 200 probe can shape them up, prioritize, sort and retransmit packets so more important traffic comes out of the **unit** first. By specifying corporate policies regarding which application's network packets (identified by protocol, packet...

...the first packets to cross the WAN link. WiseWAN 200's Adaptive Circuit-based Shaping **algorithm** detected intervals of congestion in the high-speed link and managed traffic accordingly. We configured...

... create custom groups, perhaps based on IP address or device name, it allows groups to **overlap**. We used this handy device-grouping **feature** to examine our network from multiple perspectives. VitalSuite's groups are dynamic, easy to maintain...

... hubs and switches, DSU/CSUs and RMON probes in an especially bandwidth-frugal manner. The **product** let us configure the polling rate (fast, medium or slow) for each network element. In most cases, only two small packets **totaling** about 250 bytes traversed the network during a poll - Network Health's SNMP request ...makes selecting and working with particular WAN links a breeze. We found we could move **objects** via drag-and-drop, sort columns of data by clicking on the column header and...

...click to display the consistent and intuitive pop-up menus. Best of all, WanXplorer color **codes** currently set alarms to show a rising status (red) or a falling status (gray).WanXplorer...

... can choose, but it doesn't offer the sophisticated trend tracking found in the other **products** we reviewed. All the **products** were easy to install, came with adequate documentation and integrated in our tests with Hewlett...

26/3,K/76 (Item 5 from file: 674)

DIALOG(R)File 674:Computer News Fulltext

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082159

Videoconferencing picture clears up

End point devices from Polycom and VCON really make the grade in our testing.

Byline: CHRISTINE PEREY

Journal: Network World Page Number: 49

Publication Date: March 13, 2000

Word Count: 2139 Line Count: 209

Text:

... provide standardized collaboration tools, and some manufacturers have added centralized management tools. We divided the **products** into two categories: conferencing appliance **products** and collaborative computing systems. Conferencing appliances are typically composed of a set-top box

coupled with a National Television Standard **Code** (NTSC) display for presentation and small group virtual meetings. Polycom's ViewStation MP, VCON's...

...6000 (MC6000) and Sony's Contact fall into this category. Then there are PC-based **products** that emphasize collaboration, with remote collaborators appearing in one window on a portion of a VGA or RGB screen and the collaborative tools filling the remainder of the screen. The **products** in this category are VCON's MediaConnect 8000 (MC8000), VTEL's Galaxy 725, Intel's...

... high-quality optics and built-in pan, tilt and zoom capabilities, this camera yields an **image output** equivalent to a consumer camcorder. Manufacturers' microphones varied widely. Polycom's was the best overall...

... VTEL and PictureTel all bundled Audio Technica unidirectional boundary microphones with their systems. These devices, **commonly** referred to as PZM microphones, **match** Polycom's standard in some areas. However, Polycom's superior echo cancellation and integrated mute...

...quality NTSC playback at 29.97 frame/sec as our benchmark, we found that all **products** provided acceptable business-quality video. For our tests we limited motion on the screen to...

... frame/sec at 256K bit/sec or higher. Video produced by the two industry standard **algorithms** (H.263 or H.261) provides equivalent quality at 384K bit/sec, and the price...

... IP's overhead requirements because headers are added to packets for transmission. The codecs - PC **add** -on boards for video encoding and decoding - for the **products** we tested differed substantially along three video-quality axes: color, image clarity and refresh rate...

... qualities, Polycom's ViewStation MP is unsurpassed. It failed to earn a 10 on our **scorecard** only because of image degradation on slightly loaded non-quality-of-service (QoS) IP networks...

... its optimized quarter-screen size. However, on an NTSC video monitor, the quality deteriorated. We **scored** the quality high with the understanding that the MC8000's video is intended to support...

... activities and is not to be used as a talking head small group system. In **addition**, the MC8000's video quality was arguably more tolerant of network congestion in an IP...

... lip synchronization and motion-induced artifacts. PictureTel's P550 and VTEL's SmartStation received low **grades** in this category because they are based on codecs that are now 2 years old...

... VTEL's Galaxy 725 handheld remote control is very attractive. The black and steel-blue **unit** offers a thumb-friendly joy ...output on a NTSC monitor. Sony's handheld baton is also high-quality, but the **unit**'s interface is less than intuitive. Users may be intimidated by its many rows of...

... awkward on any handheld remote, so the Galaxy 725, Intel's TeamStation and both VCON **units** include infrared keyboard and mouse support. While these **units** provide wireless connectivity, we found the slower-than-normal response times exasperating. The MC8000's...

... computer to the system for presentation support. We liked Contact's modular architecture. The base **unit** is upgradable through an expansion slot that we used to enable full 384K bit/sec...

...allows you to easily detach the EVI D30 camera head, lets you rack-mount the **codec** and permits potential upgrades to the video device. VCON's MC6000 and MC8000, ViewStation and...

... or recipient of an IP Multicast stream. With such a range of features among the **products** tested, we wouldn't have been surprised to find call placement interoperability issues. We were...

... from all systems in the test bed. Administration and system managementDue to their complexity, these **products** ship with some remote administration and system management tools. But all of these tools are...

... equal.Polycom's ViewStation MP and VTEL's Galaxy 725 received exceptionally high system-management **scores** . The ViewStation is manageable across ISDN and IP, meaning that software upgrades, changes in settings... without having all the lines for which it was originally configured physically connected to the **unit** .We had only minor problems with the installation and setup of **products** as a whole. A novice could expect to have any of these systems up and running in less than 30 minutes. We gave the MC6000 the lowest **score** because its dual-monitor setup requirement was the least intuitive. As far as documentation, VTEL...

... all local- and wide-area infrastructure. We feel confident that any of the top four **products** rated here could satisfy your group videoconferencing needs for at least the next 18 months...

26/3,K/77 (Item 6 from file: 674)

DIALOG(R)File 674:Computer News Fulltext

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078959

Fast relief for slow Web sites

Tool kit for improving Web site performance includes packet shapers, caching appliances and load balancers.

Byline: CHARLES BRUNO, GREG KILMARTIN AND KEVIN TOLLY

Journal: Network World Page Number: 59

Publication Date: November 01, 1999

Word Count: 3546 Line Count: 328

Text:

... response times, reliable service and consistency for the user experience. There are a plethora of **products** available today that can help you move traffic effectively in and out of your site. The **products** fall into three basic categories: those that shape Web traffic; those that cache repetitive Web...

... and those that know how to balance the load across your Web servers. We tested **products** from each of these categories. Our intent was not to compare them on a head...

... consistent and most reliable interaction with an e-commerce site. We focused on how the **products** can be applied to serve companies that use a single T-1 line to support...

... can improve response times and assure greater service availability for site users. Traffic shaping, for **instance** alleviates bottlenecks on LAN

links that can be overwhelmed by noncritical traffic such as a large e-mail blast. With traffic shaping in place, you can deploy caching **products** so you don't waste bandwidth by sending out repetitive requests over the Internet when...

... month. An organization with a bandwidth-limited WAN link to its primary Web site, for **instance** , can decide how much bandwidth each application or user receives. Without such controls in place...

... managers (a k a bit dribblers) were represented in our tests by NetReality's WiseWan **product** . Packet shapers that support TCP/IP session rate control were represented in our evaluation by...

...PacketShaper doesn't buffer traffic like WiseWan 200, if a traffic burst arrives, the Packeteer **product** calculates the delay until another burst hits and apportions bandwidth accordingly. One benefit of a the same device category, they are distinctly different **products** . You should use WiseWan 200 if you want to manage your Web site's WAN access links between your router and your ISP. For **instance** , our hands-on evaluation found that you can manage frame relay links down to Forward...

... perform compression on a serial WAN link than inside a campus network. By contrast, a **product** such as PacketShaper that sits inside the router and ships traffic to the router doesn...

...effective decision about whether to use compression. But we do recommend that you use a **product** like PacketShaper when you need to apportion bandwidth to various outgoing traffic types because it...

...your users are requesting and let you split off bandwidth just for those applications. For **instance** , if your site handles large amounts of FTP traffic, that traffic could choke other traffic...

...step you need to take to cut down on bandwidth waste - the deployment of caching **products** . Web caching speeds Web content delivery. Caching takes advantage of the fact that a group...

...and Cobalt Networks (see chart, below).Our testing turned up only subtle differences in caching **products** . One difference arises in how each **product** processes a Web page request. CacheFlow's CacheOS hides the IP address of client stations...

... the internal IP address structure may raise some security issues. Another notable difference between caching **products** is how they can handle an HTTP process referred to as serial retrieval. When a...

... between the browser and the Web server. That occurs because each Web page consists of **scores** of **objects** , and each time a user requests a Web page, a TCP session is established for each **object** on the page, followed by an HTTP "Get" request. HTTP 1.1 improves upon this serial retrieval of Web **objects** by adopting a form of pipelining that retrieves **objects** in groups. However, HTTP 1.0 is still prevalent among Web sites. In our evaluation...

... 500 uses a technique called Pipeline Retrieval to circumvent any such serial delay. This proprietary **algorithm** opens as many simultaneous TCP connections as permitted by the source server and retrieves **objects** in parallel. The **objects** are delivered to the client's desktop as fast as the browser can request them. In effect, Pipeline Retrieval looks ahead and downloads **objects** before the client's browser asks for them in order to

provide faster access. Timing...

... cached Web pages to improve response time is one benefit of caching appliances, but such **products** also must guarantee the freshness of Web site data. A number of elements on a...

... such as the prevailing Internet conditions or the load on a target server. For small **objects**, it is almost worthless to conduct a freshness check because the number of frames and...

... the same as transferring the element itself. It's not unusual for internal packets to **add** hundreds of milliseconds of latency because the caching engine must wait for the Web server...tag Web elements with a freshness date. Without a global approach to time-stamping Web **objects**, caching vendors rely upon proprietary **algorithms** that examine cached content for freshness. CacheFlow uses a technique called Adaptive Refresh. The **algorithm** selectively refreshes Web **objects** based on their need to be refreshed. **Object** updates occur at a frequency dictated by the caching engine's capability to formulate a "model of use" and a "model of change" for any given **object**. Those pieces of information combine to develop a refresh pattern for the Web page. This...

... off hours, which helps reduce loading on WAN links during peak usage periods. Other vendors' **products**, including Cobalt's CacheRaQ, employ a reactive **algorithm** for freshness checking. That is, the **products** field a request from a client, check locally cached **objects** and make a decision to retrieve a fresh **object**. Our recommendations: Freshness issues aside, Web caching should be a standard capability built into any e-commerce site. Web caching is particularly important because in **addition** to saving bandwidth, it reduces latency. If there is any caveat with Web caching, it ...

...a single Web server's processing capabilities. Load balancers distribute traffic among Web servers with **identical** or **overlapping** content. This approach reduces or eliminates server overload as the culprit of poor e-commerce...

... as one of five measured variables for each server that produces a "balanceability index." The **product** then uses the index to determine which server is best suited to handle certain requests. Additionally, some **products** employ server agents that collect server statistics and feed them back to the load balancer...

... information than what can be produced from a simple ping request. HydraWeb's agents, for **instance**, can sense server CPU utilization, which helps determine the number of requests each server can...the load carried by each Web server it manages, it will distribute traffic according to **algorithms**. In our evaluation, we found that Arrow Point's CS-100, F5's Big/ip...

...the fewest number of TCP connections. Arrow Point's CS-100 also supports a static **weight** balancing option that distributes requests to servers based upon an assigned **weight** - a Pentium 300 may field more requests than a Pentium 200, for **instance**. Any Web traffic management **algorithm** needs to be able to spot a faulty server. But "down" is a relative term...

... evaluation of switches found that aside from an extreme scenario in which the server is **totally** CPU-bound, there is little consensus among vendors about other impairment conditions. Clearly, vendors will have to improve the capability for their load balancers to differentiate between **total** server failures and partial service failures. Our recommendations:

lexicographic ordering in $\{\mathcal{P}\}_n$, these bases are related to each other by **linear** transformations with triangular matrices.

Section 3.1 of Chapter 3 (Derivation and some basic properties of zonal polynomials) defines a **linear** transformation $\tau_{\nu}: V_n \rightarrow V_n$ by $\tau_{\nu} \dots$

...and the author defines the zonal polynomials $\{\mathcal{Y}_p\}$ using the left characteristic **vectors** of \mathbf{T}_{ν} . Thus the \mathcal{Y}_p form a basis of...

... \mathcal{U}_p by an upper triangular matrix, and are eigenfunctions of the expected **value** operator τ_{ν} with eigenvalues denoted $\lambda_{\nu p}$. The remaining sections of...

...times k orthogonal matrix H has the uniform distribution (Section 3.2), Kates's integral **representation** (Section 3.3), and Saw's **generating** function (Section 3.4). In Section 3.2, no particular normalization of the $\mathcal{Y} \dots$

...generating function involves the coefficients d_p defined by $(\text{tr } A)^n = \sum_{p \in \mathcal{P}_n} d_p \mathcal{Z}_p(A) \dots$

...partitions \mathcal{P}_n of n into not more than k parts are required, other polynomials being **identically** zero. Section 4.2 **evaluates** $\mathcal{Y}_p(I_k)$ for the normalization having leading coefficient **unity** in the basis $\{\mathcal{U}_p\}$. This yields the leading coefficient of $\mathcal{Z} \dots$

26/3,K/95 (Item 11 from file: 239)

DIALOG(R) File 239:Mathsci

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01873371 MR 85i#65003

Computational Galerkin methods.

Fletcher, C. A. J. (Department of Mathematics, University of Sydney, Sydney, NSW 2006, Australia)

Corporate Source Codes: 5-SYD

Publ: Springer-Verlag, New York-Berlin, 1984, xi+309 pp. ISBN: 0-387-12633-3

Series: Springer Series in Computational Physics.

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (46 lines)

Reviewer: Ilioi, C. (Iasi)

...finite difference, and other methods. In the present monograph the author imparts a sense of **unity** to these methods by connecting them within the general Galerkin framework. The study of Galerkin methods makes it easier to compare the various methods and to **identify** the **features** of the particular **algorithms** which are suited to certain fields.

The structure of the book reflects the chronological development...

...method, which is illustrated by some simple examples and is interpreted as a method of **weighted** residuals. In this context other common methods of **weighted** residuals are examined and a tentative comparison is made between these methods. In the second...

...errors. The author explores the possibility of interpreting many of the well-known finite difference **algorithms** as finite element methods. Some advanced finite element techniques, such as time-splitting, least squares

for Lozi's piecewise **linear** variation on Henon's map. But other geometric mechanisms for generating a transitive attractor in...

26/3,K/97 (Item 13 from file: 239)

DIALOG(R)File 239:Mathsci

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01482840 MR 58##3209

Analiz kachestvennykh priznakov.

Analysis of qualitative attributes

Matematicheskie modeli i metody. [Mathematical models and methods]

Mirkin, B. G.

(Mirkin, B. G.)

Publ: Izdat. ``Statistika'', Moscow,

1976, 166 pp.

Language: Russian

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (42 lines)

Reviewer: Pikelis, Vitalijus (Vilnius)

The author presents methods for the **analysis** of qualitative **features**. These methods are based on two concepts: (a) representation of the features by Boolean matrices (binary relations) on the set of **objects**; (b) a definition of the distance between two Boolean matrices. Many of the results are due to the author. Several examples and practical recommendations on the features of **algorithms** are given. The book consists of three parts.

Part 1 is devoted to the basic...

...data---are discussed. Further the concept of grouping and operations on groups, e.g., a **product** of groups, are introduced. The author shows that the representation of binary relations by Boolean...

...as the Kendall and Yule coefficients, are considered.

Part 2 is devoted to the factor **analysis** of qualitative **features**. The computation of the explaining factor is described. More space is devoted to the construction...

...closely related to the methods of classification. The representing factor, when the features have unequal **weights** (assigned by experts or computed in various formal ways), is also analysed. A qualitative analogue ...

...of the least squares method) is proposed.

The analysis of the structure of relations among **objects** is studied in Part 3. The analysis is based on the relation matrix which is usually quantitative. Criteria for optimality of cluster analysis and **algorithms** allowing on to improve the values of these criteria are described. Cluster analysis when the...

...and the methods for elimination of small relations are also considered. Optimization models and heuristic **algorithms** for ordering of **objects** are briefly described. Finally, the author presents **algorithms** for analysing the the structure of relations among **objects**.

26/3,K/98 (Item 14 from file: 239)

DIALOG(R)File 239:Mathsci

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A survey of statistical design and linear models.

Proceedings of an International Symposium on Statistical Design and Linear Models held at Colorado State University, Fort Collins, Colo., on March 19--23, 1973. Edited by Jagdish N. Srivastava.

Contributors: Srivastava, Jagdish N.; Sen, Ashish; Sukhatme, P. V.; Kounias, Eustratios G.; Petros, C. I.; Zelen, M.; Koch, Gary G.; Barnett, E. H.; Freeman, J. L.; Murthy, V. K.; Lachenbruch, Peter A.; Lee, Jack C.; Geisser, Seymour; Joiner, Brian L.; Campbell, Cathy; Linder, A.; Arvesen, James N.; Johnson, Jerry D.; Last, Kennet

Publ: North-Holand Publishing Co., Amsterdam-Oxford; American Elsevier Publishing Co., Inc., New York,

1975, viii+699 pp.

Language: English

Survey of statistical design and linear models; Symposium: Statistical Design and Linear Models,; Statistical design; Linear models (Proc. Internat. Sympos., Colorado State Univ., Fort. Collins, Colo., 1973) International (Colorado State Univ., Fort. Collins, Colo., 1973)

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (139 lines)

Reviewer: Editors

...was actually a 'State of the Art' symposium in the field of statistical designs and **linear** models, taken in their broad sense. The purpose was to help disseminate knowledge and stimulate...

...designs, sequential designs, search problems, factorial and incomplete blocks, designs for stochastic processes, sampling, general **linear** models (including also the multiresponse case, distribution free methods, etc.), randomization theory, variance analysis, designs...

...treatment effects in incomplete block designs (pp. 31--51); John M. Chambers, Updating methods for **linear** models for the **addition** or deletion of observations (pp. 53--65); Herman Chernoff, Approaches in sequential design of experiments...

...areas of sample survey research (pp. 101--115); A. P. Dempster, Fitting and looking at **linear** and log **linear** fits (pp. 117--127); J. Durbin, Tests of model specification based on residuals (pp. 129--143); W. T. Federer, A. Hedayat and B. L. Raktoe, Minimal unbiased designs for **linear** parametric functions (pp. 145--153); V. V. Fedorov, Optimal experimental designs for discriminating two rival...

...179); R. F. Gunst and D. B. Owen, The availability of tables useful in analyzing **linear** models (pp. 181--196); H. O. Hartley and J. E. Gentle, Data monitoring criteria for **linear** models (pp. 197--207); David A. Harville, Computing optimum designs for covariance models (pp. 209...

...pp. 443--458); Madan Lal Puri and Pranab Kumar Sen, Distribution-free approaches to general **linear** models (pp. 459--474); C. Radhakrishna Rao, Theory of estimation of parameters in the general...

...Watson, Mathematical morphology (pp. 547--553); James S. Williams, Lower bounds on convergence rates of **weighted** least squares to best linear unbiased estimators (pp. 555--570); H. P. Wynn, Simple conditions four with index **unity** (p. 677); Peter A. Lachenbruch, A further look at initial misclassification in discriminant analysis (pp...

...operator in confounding factorial designs (p. 684); Carl Thomas Russell, Rank tests for multivariate paired **comparisons** involving random variables which are not **identically** distributed (pp. 684--685); Ashish Sen, Monte

26/3,K/102 (Item 18 from file: 239)

DIALOG(R)File 239:Mathsci

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01233483 MR 38##1789

A unified treatment of the weighting problem.

McDonald, Roderick P.

Psychometrika

1968, 33, 351--381

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (36 lines)

Reviewer: Harter, H. L.

Author's summary: ``(1) Eight well known methods for choosing **weights** for **linear** combinations of variables were listed, viz., multiple regression **weights**, canonical variate analysis, principal components of a correlation matrix, principal components of scale analysis, maximizing...

...aspect of image theory. These are then shown to be special cases of a general **weighting** procedure. (2) A general class of procedures was developed, in which **weights** are chosen to yield extreme values of a ratio of two quadratic forms, whose matrices...

...matrix is partitioned into submatrices corresponding to groups of the observed variables. This yields a **weighted** supercomposite, consisting of subcomposites corresponding to the groups of variables. (4) Maximizing the ratio of the variance of the supercomposite to the **sum** of the variances within subcomposites led to a **weighted linear** combination of the variables that has a number of desirable properties, and includes canonical variate analysis, multiple regression **weights**, and the principal components of a correlation matrix, as special cases. (5) Matrix analogues of error variance in true **score** theory were considered, and a procedure for maximizing composite reliability was obtained, which includes the...

...groups of variables. This led to a generalization on the equal residual variances model in **common factor analysis**, and a **generalized** treatment of an aspect of **image** theory. (7) The principal components of scale were shown to be a special case of...

26/3,K/103 (Item 19 from file: 239)

DIALOG(R)File 239:Mathsci

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01199938 MR 33##8062

Factor analysis of data matrices.

Horst, Paul

Publ: Holt, Rinehart and Winston, Inc., New York-Toronto, Ont.-London

1965, xix+730 pp.

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: LONG (56 lines)

Reviewer: Joreskog, K. G.

Factor **analysis** is the **common** term for a number of statistical techniques for the resolution of a set of variables...

...into $X = YA'S$, where $Y(N \times k)$ is some convenient matrix of

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00151083 DOCUMENT TYPE: Review

PRODUCT NAMES: Ariol SL-50 (215431)

TITLE: Automated Image Analysis a Requirement

AUTHOR: Bartholdi, Marty, PhD Borthwick, Duncan, PhD

SOURCE: Genomics & Proteonomics, v3 n9 p50(1) Nov/Dec 2003

ISSN: 1536-7495

HOME PAGE: <http://www.genpromag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

REVISION DATE: 20040530

The Ariol SL-50 image analysis system from Applied **Imaging** is a system that is well **designed** to integrate software and hardware into a complete instrument with high throughput and automated analysis...

...for manual or automatic selection of regions for analysis, refinement of parameters, support for new **algorithms** or protocols, and the ability to conduct multiple different analysis enhancing functions. The Ariol SL...

...to provide an objective basis for analysis and to assist the user in such analysis, **adds** quantitative insight to studies. **Value - add features** include use of automated image **analysis** scripts based on many years of experience in image processing and **algorithm** development. With the inception of tissue microarrays, researchers became aware that whole proteomic studies and...

?